



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name: Mohawk Industries, Inc.

Facility Name: Mohawk Industries, Inc.

Facility Location: 404 Anderson Street  
Glasgow, Virginia

Registration Number: 80269

Permit Number  
VRO 80269

Effective Date  
June 7, 2012

Expiration Date  
June 6, 2017

Significant Modification Date: January 30, 2014

-signed original-  
Deputy Regional Director

January 30, 2014

Signature Date

Permit consists of 79 pages  
Permit Conditions 1 to 104  
Table of Contents, 1 page  
Source Testing Report Format, 1 page  
Attachment A - Hazardous Air Pollutants, 6 pages

**Table of Contents**

**FACILITY INFORMATION .....3**

**EMISSION UNITS .....4**

**FUEL BURNING EQUIPMENT REQUIREMENTS – B5 AND B6.....8**

**PROCESS EQUIPMENT REQUIREMENTS – YARN DYE LINES .....13**

**PROCESS EQUIPMENT REQUIREMENTS – CARPET BACKING LINES .....25**

**HAZARDOUS AIR POLLUTANT CONDITIONS – PRINTING, COATING, AND DYEING OF FABRICS  
AND OTHER TEXTILES.....39**

**FACILITY WIDE CONDITIONS .....67**

**INSIGNIFICANT EMISSION UNITS .....69**

**PERMIT SHIELD & INAPPLICABLE REQUIREMENTS .....70**

**GENERAL CONDITIONS.....71**

## **Facility Information**

### **Permittee**

Mohawk Industries, Inc.  
404 Anderson Street  
Glasgow, Virginia 24555-2801

### **Responsible Official**

Roger Miller  
Director of Manufacturing

### **Facility**

Mohawk Industries, Inc.  
404 Anderson Street  
Glasgow, Virginia 24555-2801

### **Contact Person**

Rebecca Bolden  
Senior Environmental Engineer  
706-428-8080

**County-Plant Identification Number:** 51-163-0001

**Facility Description:** NAICS 314110 - Carpet and Rug Mills

Mohawk Industries, Inc. operates a nylon carpet manufacturing facility in Glasgow, Virginia. Activities at the facility include fuel burning, yarn dyeing, yarn processing, and carpet backing. Ancillary equipment and operations to support the carpet manufacturing production process include storage silos and feed hoppers, storage tanks, and mixing operations.

## Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Fuel Burning Equipment</b>							
B5	B5	Babcock and Wilcox Boiler (installed before 1972)	120 MMBtu/hr	-	-	-	12/2/09, as Amended 3/19/12 and 8/6/13
B6	B6	Babcock and Wilcox Boiler (installed before 1972)	72 MMBtu/hr	-	-	-	12/2/09, as Amended 3/19/12 and 8/6/13
<b>Yarn Dye Lines</b>							
YD1	YD1-1&2	#1 Ilma Line	3,900 lbs yarn/hr	-	-	-	8/1/07, as Amended 8/7/2013
	YD1-3						
YD2	YD2-S2	#2 Ilma Line	1.85 tons of dyeing solution per 1.54 tons of fabric per hour	-	-	-	9/4/07
	YD2-D1						
	YD2-D2						
YD3	YD3	Ilma Sample Line (1992)	300 lbs yarn/hr	-	-	-	7/10/86 as Amended 6/29/06, 8/6/07
YD4	YD4	Lanly Dryer	600 lbs yarn/hr	-	-	-	7/10/86 as Amended 6/29/06, 8/6/07
YD5	-	Pack Kettles (Total of 8) (1952)	2,500 lbs/hr (total)	-	-	-	7/10/86 as Amended 6/29/06, 8/6/07

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
SL1	SYD1-BV, SYD1-PDV, SYD1-WBV, SYD1-FDV	American Superba Dye Line #1	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09 and 8/8/2013
SL2	SYD2-BV SYD2-PDV, SYD2-WBV SYD2-FDV	American Superba Dye Line #2	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09 and 8/8/2013
SL3	SYD3-BV, SYD3-PDV, SYD3-WBV, SYD3-FDV	American Superba Dye Line #3	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09 and 8/8/2013
SL4	SYD4-BV SYD4-PDV, SYD4-WBV SYD4-FDV	American Superba Dye Line #4	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09 and 8/8/2013
BL1	BL1	Belmont Dye Line	300 lbs yarn/hr	--	--	--	--
--	--	Dye Mixers	--	--	--	--	--
<b>Carpet Backing Lines</b>							
LCS	LCS	Latex Calcium Carbonate Filler Silo (constructed before 1972)	60,000 lbs/hr	Fabric Filter	LCS	PM/PM-10	-
SBRM		SBR Latex Mixer (constructed before 1972)	-				
VAES	VAES	VAE Latex Filler Silo	130,000 lbs/hr; 9,611 TPY	Ultra Industries Fabric Filter Model #CBVC 7- 36-11	VAES	PM/PM-10	7/30/09
VAEM		VAE Latex Mixer	-				
PVC1	PVC1	PVC Carpet Backing Line	2,400 yd <sup>2</sup> /hr	Ceco Twin Pack Fiber Bed (Coalescing Filter)	PVC1	PM/PM-10	7/13/11
PVCS-C1	PVCS-C1	PVC Silo	60,000 lbs/hr; 42,000 TPY	Ultra Industries Fabric Filter by IMH	PVCS-C1	PM/PM-10	7/13/11

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
PVCS-C2	PVCS-C2	Filler Silo #2	40,000 lbs/hr	Fabric Filter	PVCS-C2	PM/PM-10	7/13/11
	PVCS-FH	PVC Filler Feed Hopper	10,000 lbs/hr		PVCS-FH		
DINP1 & DINP2	--	Diisononyl phthalate Storage Tanks	10,000 gallons, each	--	--	--	--
HMS	HMS	Hot Melt Sample Line	1,333 yd <sup>2</sup> /hr	-	-	-	8/12/02 as amended 6/29/06
HME-S	HME-S	R & D Sample Hot Melt Extruder	1,000 lbs/hr	-	-	-	3/27/06
TE1-RC	TE1-RC	Pre-Coat Roller Coater Station	2,400 lbs/hr	--	--	--	4/28/06
TE1-MC1	TE1-MC1	Tile Extruder Line 1	5,000 lbs/hr	--	--	--	4/28/06
TE1-MC2	TE1-MC2	Tile Extrude Line 2	8,000 lbs/hr	--	--	--	4/28/06
TE1-RTD1	TE1-RTD1	Tile Line Extruder Pellet Receiver Tank 1	45,000 lbs/hr	Fabric Filter	TE1-RTD1	PM/PM-10	4/28/06
TE1-RTD2	TE1-RTD2	Tile Line Extruder Pellet Receiver Tank 2	45,000 lbs/hr	Fabric Filter	TE1-RTD2	PM/PM-10	4/28/06
TE1-RTD3	TE1-RTD3	Tile Line Extruder Pellet Receiver Tank 3	7,000 lbs/hr	Fabric Filter	TE1-RTD3	PM/PM-10	4/28/06
TE1-RTD4	TE1-RTD4	Tile Line Extruder Pellet Receiver Tank 4	10,000 lbs/hr	Fabric Filter	TE1-RTD4	PM/PM-10	4/28/06
Pellet 4	Pellet 4	Pellet 4 Storage Silo	110 tons	Fabric Filter	Pellet 4	PM/PM-10	4/28/06
Pellet 5	Pellet 5	Pellet 5 Storage Silo	110 tons	Fabric Filter	Pellet 5	PM/PM-10	4/28/06
Pellet 6	Pellet6	Pellet 6 Storage Silo	110 tons	Fabric Filter	Pellet 6	PM/PM-10	4/28/06
TE1-T1	TE1-T1	Trial Pellet Receiver Tank 1	3,000 lbs/hr	Fabric Filter	TE1-T1	PM/PM-10	4/28/06
TE1-T2	TE1-T2	Trial Pellet Receiver Tank 2	6,000 lbs/hr	Fabric Filter	TE1-T2	PM/PM-10	4/28/06
LPCR-1	OV-1, OV-2, OV-3, OV-4, OV-5	Latex Pre-Coat Range	5,000 yd <sup>2</sup> /hr	--	--	--	3/24/11
<b>Miscellaneous</b>							
PW	--	Non-aqueous Parts Washer	--	--	--	--	--

<b>Emission Unit ID</b>	<b>Stack ID</b>	<b>Emission Unit Description</b>	<b>Size/Rated Capacity *</b>	<b>Pollution Control Device (PCD) Description</b>	<b>PCD ID</b>	<b>Pollutant Controlled</b>	<b>Applicable Permit Date</b>
WWTP	--	Wastewater Treatment Plant	--	--	--	--	--
SLD	--	Self Lock Dryer	1.5 Million Btu/hr	--	--	--	--

\*The Size/Rated Capacity is provided for informational purposes only and is not an applicable requirement.

## **Fuel Burning Equipment Requirements – B5 and B6**

1. **Fuel Burning Equipment Requirements – (B5 and B6) – Limitations** – The approved fuels for the Babcock and Wilcox boilers (B5 and B6) are natural gas and distillate oil. A change in the fuels may require a permit to modify and operate.  
(9 VAC 5-80-110 and Condition 4 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
2. **Fuel Burning Equipment Requirements – (B5 and B6) – Limitations** – The total distillate oil fuel throughput for Boiler B5 shall not exceed 4,347,826 gallons per year, calculated monthly as the sum of each consecutive 12-month period. The total distillate oil fuel throughput for Boiler B6 shall not exceed 2,608,696 gallons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. There is no fuel throughput limitation for the use of natural gas.  
(9 VAC 5-80-110 and Condition 6 of 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
3. **Fuel Burning Equipment Requirements – (B5 and B6) – Limitations** – The distillate oil shall meet the ASTM D396 specification for Grades 1 or 2 fuel oil and shall not exceed 0.05 percent sulfur content per shipment.  
(9 VAC 5-80-110 and Condition 5 of 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
4. **Fuel Burning Equipment Requirements – (B5 and B6) – Limitations** – Visible emissions from each of the boiler (B5 and B6) stacks shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity.  
(9 VAC 5-80-110 and 9 VAC 5-40-940)
5. **Fuel Burning Equipment Requirements – (B5 and B6) – Limitations** – Emissions from each boiler (B5 and B6) shall be controlled by proper operation and maintenance. Boiler operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule for the boilers. These procedures shall be based on the manufacturer's recommendations, at minimum.  
(9 VAC 5-80-110 and Condition 3 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
6. **Fuel Burning Equipment Requirements – (B5) – Limitations** – Emissions from the operation of boiler B5 shall not exceed the limits specified below:



Particulate Matter (filterable)	1.74 lbs/hr	4.76 tons/yr
PM-10 (total)	2.00 lbs/hr	6.67 tons/yr
PM-2.5 (total)	1.35 lbs/hr	5.04 tons/yr
Nitrogen Oxides	32.68 lbs/hr	143.16 tons/yr
Carbon Monoxide	9.81 lbs/hr	42.95 tons/yr
Sulfur Dioxide	6.17 lbs/hr	15.57 tons/yr
Volatile Organic Compounds	0.64 lbs/hr	2.81 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, and 3. (9 VAC 5-80-110 and Condition 8 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)

**7. Fuel Burning Equipment Requirements – (B6) – Limitations** – Emissions from the operation of boiler B6 shall not exceed the limits specified below:

Particulate Matter (filterable)	1.04 lbs/hr	2.86 tons/yr
PM-10 (total)	1.20 lbs/hr	4.00 tons/yr
PM-2.5 (total)	0.81 lbs/hr	3.02 tons/yr
Nitrogen Oxides	10.43 lbs/hr	39.25 tons/yr
Carbon Monoxide	5.88 lbs/hr	25.77 tons/yr
Sulfur Dioxide	3.70 lbs/hr	9.34 tons/yr
Volatile Organic Compounds	0.39 lbs/hr	1.69 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, and 3. (9 VAC 5-80-110 and Condition 9 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)

8. **Fuel Burning Equipment Requirements – (B5 and B6) – Monitoring** – The permittee shall conduct weekly inspections of each stack (B5 and B6) to determine the presence of visible emissions. If during the inspection, visible emissions are observed, an EPA Method 9 (40 CFR Part 60, Appendix A) visible emissions evaluation (VEE) shall be conducted. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until 60 minutes of observations have been completed.  
(9 VAC 5-80-110)
9. **Monitoring** – When VEEs, performed in accordance with Condition 8, indicate the visible emissions exceed the limitation shown in Condition 4 for boiler B5 or B6, then the permittee shall verify that the boiler(s) is operating in accordance with manufacturer's specifications or other predetermined site-specific acceptable operating conditions. If a boiler is not operating properly, the permittee shall take corrective action in an effort to reduce emissions to or below the limitation shown in Condition 4.  
(9 VAC 5-80-110)
10. **Fuel Burning Equipment Requirements – (B5 and B6) – Recordkeeping** – The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel supplier certification shall include the following:
- a. The name of the fuel supplier;
  - b. The date on which the distillate oil was received;
  - c. The volume of distillate oil delivered in the shipment;
  - d. A statement that the distillate oil complies with the American Society for Testing and Materials specification (ASTM D396) for Grades 1 or 2 Low Sulfur fuel oil; and
  - e. The sulfur content (in percent) of the distillate oil.
- (9 VAC 5-50-410, 9 VAC 5-80-110, and Condition 7 of 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
11. **Fuel Burning Equipment Requirements – (B5 and B6) – Recordkeeping** – The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:
- a. Annual throughput of distillate oil to each Boiler B5 and B6, calculated monthly as the sum of each consecutive 12-month period.

- b. Annual throughput of natural gas to each Boilers B5 and B6, calculated monthly as the sum of each consecutive 12-month period.
- c. All fuel supplier certifications.
- d. A log of weekly inspections, the results of all VEEs, and any corrective actions taken for each boiler (B5 and B6) stack as required in Condition 8.
- e. The DEQ-approved, pollutant-specific emission factors and the equations used to demonstrate compliance with Conditions 6 and 7.
- f. Scheduled and unscheduled maintenance and operator training.
- g. Records of maintenance, operating procedures, and training as required in Condition 12.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Condition 10 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)

- 12. **Fuel Burning Equipment Requirements – (B5 and B6) – Recordkeeping** – The permittee shall maintain records of the required training including a statement of time, place and nature training provided. The permittee shall have available good written operating procedures and a maintenance schedule for the boiler(s). These procedures shall be based on the manufacturer's recommendations, at minimum.  
(9 VAC 5-80-110 and Condition 15 of 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
- 13. **Fuel Burning Equipment Requirements – (B5 and B6) – Testing** – The boilers shall be installed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested and safe sampling platforms and access shall be provided.  
(9 VAC 5-80-110 and Condition 2 of the 12/2/2009 Permit, as amended 3/19/2012 and 8/6/13)
- 14. **Fuel Burning Equipment Requirements – (B5 and B6) – Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

**Fuel Burning Equipment Requirements – (B5 and B6) – Hazardous Air Pollutant Conditions – Fuel Burning** – The following requirements are derived from 40 CFR 63, Subpart JJJJJJ – National Emissions Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers. All terms used in the conditions derived from 40 CFR 63, Subpart JJJJJJ shall have the meanings as defined in 40 CFR 63.2 and 40 CFR 63.11237. The affected sources are the fuel burning equipment identified as Boilers B5 and B6. Requirements include all control,

operational, work practice, recordkeeping, reporting, and testing requirements, as applicable.

**15. Fuel Burning Equipment Requirements – (B5 and B6) – Hazardous Air**

**Pollutant Conditions – Limitations** – Except where this permit is more restrictive, the facility shall comply with the requirements of 40 CFR 63, Subpart JJJJJJ no later than the dates specified below:

- a. If the existing affected boiler is subject to emission limits, the permittee must achieve compliance with the emission limits no later than March 21, 2014.
- b. If the existing affected boiler is subject to the energy assessment requirement, the permittee must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(9 VAC 5-80-110, §63.11193, and §63.11196)

**16. Fuel Burning Equipment Requirements – (B5 and B6) – Reporting –**

Compliance reports shall contain the information specified in 40 CFR 63.11225 (b) and, as applicable, the information specified in 40 CFR 63.11225 (e). Each compliance report shall cover the annual reporting period from January 1 through December 31 and shall be postmarked no later than March 1 of the following year.  
(9 VAC 5-80-110 and §63.11225)

## Process Equipment Requirements – Yarn Dye Lines

### 17. Process Equipment Requirements – Yarn Dye Lines – Limitations – #1 Ilma Line (YD1)

- a. Volatile organic compound (VOC) emissions from the #1 Ilma Line (YD1) are limited to 0.0005 pounds per pound of yarn dye as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 2 of 8/1/2007 permit, as amended 8/7/2013)
- b. VOC emissions from YD1 carpet yarn lubricant are limited to 0.003 pounds VOC per pound of yarn lubricant, as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 3 of 8/1/2007 permit, as amended 8/7/2013)
- c. The throughput of carpet yarn dye shall not exceed 40,996,800 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-110 and Condition 4 of 8/1/2007 permit, as amended 8/7/2013)
- d. The throughput of carpet yarn lubricant shall not exceed 3,416,400 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-110 and Condition 5 of 8/1/2007 permit, as amended 8/7/2013)
- e. Visible emissions from each YD1 exhaust stack (YD1-1, YD1-2, and YD1-3) shall not exceed five percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-40-80, 9 VAC 5-80-110 and Condition 7 of 8/1/2007 permit, as amended 8/7/2013)
- f. Emissions from the operation of YD1 shall not exceed the limits specified below:

Volatile Organic Compounds	3.5 lb/hr	15.4 tons/year
----------------------------	-----------	----------------

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emissions limits. Compliance with these emission limits may be determined as stated in Conditions 16.c and 16.d.

(9 VAC 5-80-110 and Condition 6 of 8/1/2007 permit, as amended 8/7/2013)

**18. Process Equipment Requirements – Yarn Dye Lines – Limitations – #2 Ilma Line (YD2)**

- a. VOC emissions from the #2 Ilma Line (YD2) are limited to 0.000784 pounds VOC per pound of yarn dye, as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 2 of 9/4/2007 permit)
- b. VOC emissions from YD2 carpet yarn lubricant are limited to 0.003 pounds VOC per pound of yarn lubricant as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 3 of 9/4/2007 permit)
- c. The throughput of carpet yarn dye for YD2 shall not exceed 32,340,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 4 of 9/4/2007 permit)
- d. The throughput of carpet yarn lubricant shall not exceed 2,694,374 pounds per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 5 of 9/4/2007 permit)
- e. Visible emissions from each YD2 exhaust stack (YD2-S2, YD2-D1, and YD2-D2) shall not exceed five percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-40-80, 9 VAC 5-80-110 and Condition 7 of 9/4/2007 permit)
- f. Emissions from the operation of YD2 shall not exceed the limits specified below:

Volatile Organic Compounds	3.8 lb/hr	16.7 tons/year
----------------------------	-----------	----------------

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance with these emission limits may be determined as stated in Conditions 18.a, 18.b, 18.c, and 18.d.  
(9 VAC 5-80-110 and Condition 6 of 9/4/2007 permit)

**19. Process Equipment Requirements – Yarn Dye Lines – Limitations – Batch Yarn Dyeing Operation (YD): Ilma Sample Line (YD3), Lanly Dryer (YD4), and Pack Kettles (YD5)**

- a. Volatile Organic Compound (VOC) emissions from the carpet yarn dye are limited to 0.0012 pounds VOC per pound of yarn dye as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 2 of 7/10/1986 permit, as amended 6/29/2006 and 8/6/2007)

- b. The throughput of carpet yarn dye shall not exceed 3,000,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 3 of 7/10/1986 permit, as amended 6/29/2006 and 8/6/2007)
- c. Visible emissions from the Ilma Sample Line exhaust stack (YD3), the Lanly Dryer exhaust stack (YD4), and visible fugitive emissions from the Pack Kettle (YD5), each, shall not exceed 20 percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-80, 9 VAC 5-80-110, and Conditions 5 and 6 of 7/10/1986 permit, as amended 6/29/2006 and 8/6/2007)
- d. Emissions from the operation of the Batch Yarn Dyeing Operations shall not exceed the limits specified below:

Volatile Organic Compounds	3.2 lbs/hr	1.8 tons/yr
----------------------------	------------	-------------

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance with these emission limits may be determined as stated in Conditions 19.a and 19.b.  
(9 VAC 5-80-110 and Condition 4 of 7/10/1986 permit, as amended 6/29/2006 and 8/6/2007)

**20. Process Equipment Requirements – Yarn Dye Lines – Limitations – Superba Dye Lines 1 – 4 (SL1 – SL4)**

- a. Volatile organic compounds (VOC) emissions from the carpet yarn dye are limited to 0.000441 pounds VOC per pound of yarn dye as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 2 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)
- b. VOC emissions from the carpet yarn lubricant are limited to 0.004 pounds VOC per pound of yarn lubricant as applied, calculated as a monthly weighted average.  
(9 VAC 5-80-110 and Condition 3 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)
- c. At all times the disposal of VOCs shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. VOCs shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.  
(9 VAC 5-80-110 and Condition 4 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)

- d. The throughput of carpet yarn dye shall not exceed 1,051,200 pounds per year per Superba Dye Line (SL1 – SL4), calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 6 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)
- e. The throughput of carpet yarn lubricant shall not exceed 262,800 pounds per year per Superba Dye Line (SL1 – SL4), calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 7 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)
- f. Visible emissions from each exhaust stack of the Superba Dye Lines (SL1 – SL4) shall not exceed five percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-80-110 and Condition 9 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)
- g. Total emissions from the operation of the Superba Dye Lines (SL1 – SL4) shall not exceed the limits specified below:

Volatile Organic Compounds	0.72 lb/hr	3.17 tons/year
----------------------------	------------	----------------

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emissions contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 20.a, 20.b, 20.c, 20.d, and 20.e.

(9 VAC 5-80-110 and Condition 8 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)

**21. Process Equipment Requirements – Yarn Dye Lines – Limitations –** The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of



such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training, and the nature of the training.

(9 VAC 5-80-110 and Condition 13 of 8/1/2007 permit, as amended 8/7/2013, Condition 13 of 9/4/2007 Permit, and Condition 15 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)

**22. Process Equipment Requirements – Yarn Dye Lines – Monitoring – Volatile Organic Compound (VOC) Material Content and Limits**

- a. VOC Content Determination – Dyes and Lubricants: The VOC content of each yarn dye and lubricant shall be determined using the following procedures:
  - (1) The VOC content of each dye or lubricant as supplied shall be determined by the permittee or supplier initially or when the dye or lubricant is modified or substituted using EPA Method 24 or 24A (reference 40 CFR 60, Appendix A). Such content shall be used for the purpose of calculating emissions, the monthly weighted average mass of VOC per mass of yarn dye as applied, and the monthly weighted average mass of VOC per mass of yarn lubricant as applied.
  - (2) Each dye and lubricant as supplied, in which the Material Safety Data Sheet (MSDS) indicates a VOC content of 100 percent by weight, may be assumed to be 100 percent for the purpose of calculating emissions, the monthly weighted average mass of VOC per mass of yarn dye as applied, and the monthly weighted average mass of VOC per mass of yarn lubricant as applied in lieu of EPA Method 24 or 24A testing (reference 40 CFR 60, Appendix A).
  - (3) Each new dye and lubricant as supplied, received after the effective date of this permit or when the dye or lubricant is modified or substituted, shall be tested by the permittee or the supplier within 90 days of the receipt of the shipment, modification, or substitution. Each dye and lubricant (as supplied) shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 or 24A results.
  - (4) Until such time as testing is conducted for the purpose of calculating the monthly weighted average mass of VOC per mass of yarn dye or lubricant as applied, or when Method 24 or 24A VOC content data is not available, the VOC content of each dye or lubricant as supplied shall be based on formulation data as shown on the MSDS or other vendor information. If the VOC content is stated as a range, the maximum content value shall be used.

(9 VAC 5-80-110)

- b. VOC Emission Limit: Compliance with the emissions limits established in Conditions 17.f, 18.f, 19.d, and 20.g, as applicable per dye line, shall be determined using the following equations:

(1) Average Hourly Emissions

$$E_{voc} = \frac{(\sum_{i=1}^n W_{dye,i} M_{dye,i} + \sum_{i=1}^n W_{lub,i} M_{lub,i})}{H}$$

..... Equation 6

Where:

$E_{voc}$  = the average hourly VOC emissions in pounds per hour

$W_{dye,i}$  = the weight fraction of VOC of each yarn dye (i) applied during the calendar month

$M_{dye,i}$  = the total mass, in pounds, of each yarn dye (i) applied during the calendar month

$W_{lub,i}$  = the weight fraction of VOC of each yarn lubricant (i) applied during the calendar month

$M_{lub,i}$  = the total mass, in pounds, of each yarn lubricant (i) applied during the calendar month

$H$  = the total number of hours of operation during the calendar month

(9 VAC 5-80-110)

(2) Annual Emissions

$$E_{voc} = \frac{(\sum_{i=1}^n W_{dye,i} M_{dye,i} + \sum_{i=1}^n W_{lub,i} M_{lub,i})}{2000}$$

..... Equation 7

Where:

$E_{voc}$  = the total monthly VOC emissions in tons

$W_{dye,i}$  = the weight fraction of VOC of each yarn dye (i) applied during the calendar month

$M_{\text{dye},i}$  = the total mass, in pounds, of each yarn dye (i) applied during the calendar month

$W_{\text{lub},i}$  = the weight fraction of VOC of each yarn lubricant (i) applied during the calendar month

$M_{\text{lub},i}$  = the total mass, in pounds, of each yarn lubricant (i) applied during the calendar month

Annual VOC emissions shall be calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110)

(3) Weighted Average Determination (Conditions 17.a, 17.b, 18.a, 18.b, 19.a, 20.a, and 20.b)

$$VOC = \frac{\sum_{i=1}^n W_i M_i}{\sum_{i=1}^n M_i}$$

..... Equation 8

Where:

VOC = the weighted average mass, in pounds, of VOC per mass, in pounds, of yarn dye or lubricant applied each calendar month

$W_i$  = the weight fraction of VOC of each yarn dye or lubricant (i) applied during the calendar month

$M_i$  = the total mass, in pounds, of each yarn dye or lubricant (i) applied during the calendar month

(9 VAC 5-80-110)

c. Compliance with the annual emissions limits established in Conditions 20.g shall be determined using the following equation:

$$E_{VOC} = \sum_{n=1}^n SL_i$$

..... Equation 9

Where:

$E_{VOC}$  = the total monthly VOC emissions in tons for Superba Dye Lines 1-4

$SL_i$  = the VOC emissions

$n$  = the number of Superba Dye Lines

(9 VAC 5-80-110)

**23. Process Equipment Requirements – Yarn Dye Lines – Monitoring – Visible Emissions:** The permittee shall conduct visible emissions inspections on each exhaust stack, with limits established in Conditions 17.e, 18.e, 19.c, and 20.f, in accordance with the following procedures and frequencies.

- a. At a minimum of once per week, the permittee shall determine the presence of visible emissions. If during the inspection, visible emissions are observed, a visible emissions evaluation (VEE) shall be conducted in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A). The VEE shall be conducted for a minimum of six minutes. If any of the observations exceed five percent opacity, the VEE shall be conducted for a total of 60 minutes. If the 60 minutes VEE indicates a violation of the standard, corrective action shall be taken.
- b. All visible emissions inspections shall be performed when the equipment is operating.
- c. If visible emissions inspections conducted during 12 consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.
- d. All observations, VEE results, and corrective actions taken shall be recorded.

(9 VAC 5-80-110)

**24. Process Equipment Requirements – Yarn Dye Lines – Recordkeeping –** The permittee shall maintain records of all emissions data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

a. **Process Equipment Requirements – Yarn Dye Lines – Recordkeeping – #1 Ilma Dye Line (YD1)**

- (1) Monthly, and annual hours of operation. Annual hours of operations shall be calculated as the sum of each consecutive 12-month period.
- (2) Monthly and annual throughput of carpet yarn dye used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- (3) Monthly and annual throughput of carpet yarn lubricant used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- (4) Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively). Hourly emissions shall be calculated as a monthly average; annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- (5) VOC content of each carpet yarn dye and lubricant used (in pounds per pound of yarn dye or lubricant), calculated as a monthly weighted average.
- (6) Material Safety Data Sheets (MSDS) or other vendor information showing VOC content, HAP content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component.
- (7) Results of all stack tests, visible emission evaluations, and performance evaluations.

(9 VAC 5-80-110 and Condition 9 of 8/1/2007 permit, as amended 8/7/2013)

**25. Process Equipment Requirements – Yarn Dye Lines – Recordkeeping – #2 Ilma Dye Line (YD2)**

- a. Monthly hours of operation.
- b. Monthly and annual throughput of carpet yarn dye used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

- c. Monthly and annual throughput of carpet yarn lubricant used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- d. Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively). Hourly emissions shall be calculated as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- e. VOC content of each carpet yarn dyes and lubricants used (in pounds per pound of yarn dye or lubricant), calculated as a monthly weighted average.
- f. Material Safety Data Sheets (MSDS) or other vendor information showing VOC content, HAP content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component used.
- g. Results of all visible emission evaluations.

(9 VAC 5-80-110 and Condition 9 of 9/4/2007 permit)

**26. Process Equipment Requirements – Yarn Dye Lines – Recordkeeping – Batch Dyeing Operations (YD):** Ilma Sample Line (YD3), Lanly Dryer (YD4), and Pack Kettles (YD5)

- a. Monthly hours of operation of the Lanly Dryer (YD4)
- b. Monthly and annual throughput of dye (in pounds) for the Batch Yarn Dyeing Operations (YD). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- c. Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively) from the Batch Yarn Dyeing Operations (YD). Hourly emissions shall be calculated as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- d. VOC content of each carpet yarn dye (in pound per pound of yarn dye) used in the Batch Yarn Dyeing Operations (YD), calculated as a monthly weighted average.
- e. MSDS or other vendor information showing VOC content, HAP content, water content, and solids content for each dye component used in the Batch Yarn Dyeing Operations (YD).
- f. Results of all visible emission evaluations.

(9 VAC 5-80-110 and Condition 8 of 7/10/1986 permit, as amended 6/29/2006 and 8/6/2007)

**27. Process Equipment Requirements – Yarn Dye Lines – Recordkeeping – Superba Dye Lines (SL1 – SL4)**

- a. Monthly hours of operation of each Superba Dye Line (SL1 – SL4)
- b. Monthly and annual throughput of carpet yarn dye (in pounds) used in each Superba Dye Line (SL1 – SL4). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- c. Monthly and annual throughput of carpet yarn lubricant (in pounds) used in each Superba Dye Line (SL1 – SL4). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- d. Hourly VOC emissions (in pounds) from each Superba Dye Line (SL1 – SL4), calculated as a monthly average.
- e. Monthly and annual VOC emissions (in tons) from each Superba Dye Line (SL1 – SL4). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- f. VOC content of carpet yarn dyes used in the Superba Dye Lines (SL1 – SL4) (in pounds per pound of yarn dye), calculated as a monthly weighted average
- g. VOC content of carpet yarn lubricant used in the Superba Dye Lines (SL1 – SL4) (in pounds per pound of yarn lubricant), calculated as a monthly weighted average.
- h. Material Safety Data Sheet (MSDS) or other vendor information showing VOC content, hazardous air pollutant (HAP) content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component.
- i. Scheduled and unscheduled maintenance and operator training for the Superba Dye Lines (SL1 – SL4).
- j. Results of all visible emission evaluations.

(9 VAC 5-80-110 and Condition 11 of 7/1/2008 Permit, as amended 10/22/2009 and 8/8/2013)

**28. Process Equipment Requirements – Yarn Dye Lines – Testing –** The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the DEQ, test ports shall be provided at the appropriate locations.

(9 VAC 5-40-30, 9 VAC 5-50-30 and 9 VAC 5-80-110)

29. **Process Equipment Requirements – Yarn Dye Lines – Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ. (9 VAC 5-80-110)



## Process Equipment Requirements – Carpet Backing Lines

Latex Calcium Carbonate Filler Silo (LCS) and VAE Latex Filler Silo (VAES), including SBR Latex Mixer (SBRM), and VAE Latex Mixer (VAEM);

PVC Carpet Backing Line (PVC1), including PVC1 Calcium Carbonate Storage Silo (PVCS-C1), Filler Storage Silo (PVCS-C2), and PVC1 Feed Hopper (PVCS-FH);

Latex Pre-Coat Range (LPCR-1);

Hot Melt Sample Line Stack (HMS);

R&D Sample Hot Melt Extruder (HME-S); and

Tile Extrusion Line (TE1) including Pre-Coat Roller Coater Station (TE1-RC), Tile Line Extruders (TE1-MC1 and TE1-MC2), Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1 through TE1-RTD4), Trial Pellet Receiver Tanks (TE1-T1 and TE1-T2), and Pellet Storage Silos (Pellet 4 through Pellet 6).

### 30. Process Equipment Requirements – Carpet Backing Lines – Limitations – Particulate Matter (PM) Emissions

- a. PM emissions from LCS shall not exceed the process weight limit as determined by the following equation:

$$E = 4.10P^{0.67}$$

..... Equation 11

Where:

E = emission rate in lbs/hr

P = process weight rate in tons/hr

(9 VAC 5-40-260 and 9 VAC 5-80-110)

- b. PM emissions from the following sources shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection and shall be in operation when the associated equipment is operating.

(1) LCS and the return air from the transfer of filler from the latex calcium carbonate filler silo to the SBR latex mixer.

(9 VAC 5-80-110)

- (2) PVCS-C1, PVCS-C2, and PVCS-FH.  
(9 VAC 5-80-110 and Condition 3 of 7/13/2011 Permit)
- (3) Filling of the VAE Latex Filler Silo (VAES) and the return air from the transfer of filler from the VAE Latex Filler Silo to the VAE Latex Mixer (VAEM).  
(9 VAC 5-80-110 and Condition 2 of 7/30/2009 Permit)
- (4) PVC Carpet Backing Line (PVC1) – Coalescing Filter.  
(9 VAC 5-80-110 and Condition 2 of 7/13/2011 Permit)
- (5) TE1-RTD1 through TE1-RTD4, Pellet 4 through 6, and TE1-T1 and TE1-T2.  
(9 VAC 5-80-110 and Condition 2 of 4/28/2006 permit)
- c. Fugitive PM Emissions: Fugitive PM emissions from the handling and transfer of pre-blended pellets shall be controlled by enclosure.  
(9 VAC 5-80-110, Condition 3 of 3/27/2006 permit and Condition 3 of 4/28/2006 permit)

**31. Process Equipment Requirements – Carpet Backing Lines – Limitations –**  
Visible Emissions: As determined by EPA Method 9 (Reference 40 CFR 60, Appendix A)

- a. Visible emissions from the LCS stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent.  
(9 VAC 5-40-80 and 9 VAC 5-80-110)
- b. Visible emission from the following sources shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.
  - (1) Hot Melt Sample Line Stack (HMS).
  - (2) Latex Pre-coat Range (LPCR-1)  
(9 VAC 5-50-80 and 9 VAC 5-80-110)
- c. Visible emissions from the following sources shall not exceed five percent opacity. This condition applies at all times except during startup, shutdown, and malfunction.
  - (1) VAE Latex Filler Silo fabric filter (VAES).  
(9 VAC 5-80-110, 9 VAC 5-50-80, and Condition 8 of 7/30/2009 Permit)

- (2) PVC Carpet Backing Line (PVC1).  
(9 VAC 5-80-110, 9 VAC 5-50-80, and Condition 12 of 7/13/2011 Permit)
  - (3) Calcium Carbonate Storage Silo (PVCS-C1), the filler storage silo (PVCS-C2), and the feed hopper (PVCS-FH).  
(9 VAC 5-80-110, 9 VAC 5-50-80, and Condition 13 of 7/13/2011 Permit)
  - (4) R&D Sample Hot Melt Extruder (HME-S), and Pellet 2.  
(9 VAC 5-80-110 and 9 VAC 5-50-80)
  - (5) Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1 through TE1-RTD4), Tile Line Extruders (TE1-MC1 and TE1-MC2), Pellet Storage Silos (Pellet 4 through 6), and Trial Pellet Receiver Tanks (TE1-T1 and TE1-T2).  
(9 VAC 5-80-110, 9 VAC 5-50-80, and Conditions 13 and 14 of 4/28/2006 permit)
- d. Visible fugitive emissions from the handling and transfer of pre-blended pellets shall not exceed 10 percent opacity. This condition applies at all times except during start up, shutdown, and malfunction.  
(9 VAC 5-80-110, Condition 11 of 3/27/2006 permit, and Condition 15 of 4/28/2006 permit)

**32. Process Equipment Requirements – Carpet Backing Lines – Limitations – Throughput Limitations**

a. VAES

- (1) The VAE Latex Filler Silo (VAES) shall process no more than 130,000 pounds per day, calculated daily as the sum of each consecutive 24-hour period.  
(9 VAC 5-80-110 and Condition 6 of 7/30/2009 Permit)
- (2) The throughput of calcium carbonate shall not exceed 9,611 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 7 of 7/30/2009 Permit)

b. PVC1

- (1) The Calcium Carbonate Storage Silo (PVCS-C1) and the filler silo (PVCS-C2) shall process no more than 120.0 tons per day, calculated daily.  
(9 VAC 5-80-110 and Condition 7 of 7/13/2011 Permit)
- (2) The Calcium Carbonate Storage Silo (PVCS-C1) and the filler storage silo (PVCS-C2) shall process no more than 42,000.0 tons per year, total, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 8 of 7/13/2011 Permit)

- (3) The throughput of plastisol formula to the PVC carpet backing line (PVC1) shall not exceed 283.5 tons per day, calculated daily.

(9 VAC 5-80-110 and Condition 9 of 7/13/2011 Permit)

- (4) The throughput of plastisol formula to the PVC Carpet Backing Line (PVC1) shall not exceed 55,188.0 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 10 of 7/13/2011 Permit)

- c. Hot Melt Sample Line (HMS): The throughput of VOC in the materials used in HMS shall not exceed 8.6 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 3 of 8/12/2002 permit, as amended 6/29/2006)

- d. R&D Sample Hot Melt Extruder (HME-S): The throughput of pre-blended pellets for the R&D sample hot melt extruder (HME-S) shall not exceed 1,000.0 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 7 of 3/27/2006 Permit)

- e. Tile Extrusion Line (TE1)

- (1) TE1-RC: The throughput of pre-coat resin for the pre-coat roller coater station (TE1-RC) shall not exceed 10,512 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 5 of 4/28/2006 permit)

- (2) TE1-MC1: The throughput of pre-blended pellets for the tile line extruder 1 (TE1-MC1) shall not exceed 60.0 tons per day, calculated daily.

(9 VAC 5-80-110 and Condition 6 of 4/28/2006 permit)

- (3) TE1-MC1: The throughput of pre-blended pellets for the tile line extruder 1 (TE1-MC1) shall not exceed 21,900.0 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 8 of 4/28/2006 permit)

- (4) TE1-MC2: The throughput of pre-blended pellets for the tile line extruder 2 (TE1-MC2) shall not exceed 96.0 tons per day, calculated daily.

(9 VAC 5-80-110 and Condition 7 of 4/28/2006 permit)

- (5) TE1-MC2: The throughput of pre-blended pellets for the tile line extruder 2 (TE1-MC2) shall not exceed 35,040.0 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110, 9 VAC 5-50-260, and Condition 9 of 4/28/2006 permit)

f. Latex Pre-coat Range (LPCR-1)

- (1) The throughput of VOC for latex mix for LPCR-1 shall not exceed 24.3 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 4 of 3/24/2011 Permit)
- (2) The throughput of VOC for topical mix for LPCR-1 shall not exceed 4.6 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 5 of 3/24/2011 Permit)

**33. Process Equipment Requirements – Carpet Backing Lines – Limitations –**

Process Emissions: Emissions are derived from the estimated overall emissions contribution from the operating limits. Exceedance of the operating limit may be considered credible evidence of the exceedance of the emission limit. Compliance with the emission limits below may be determined as stated in the applicable conditions.

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

- a. PVC1: Emissions from the operation of the PVC carpet backing line (PVC1) shall not exceed the limits specified below:

Particulate Matter (PM)	0.35 lbs/hr	1.52 tons/yr
PM-10	0.35 lbs/hr	1.52 tons/yr
VOC	1.29 lbs/hr	5.63 tons/yr

(9 VAC 5-80-110 and Condition 11 of the 7/13/2011 Permit)

- b. HMS: Emissions from the operation of the Hot Melt Sample Line (HMS) shall not exceed the limit specified below:

VOC	8.60 tons/yr
-----	--------------

(9 VAC 5-80-110 and Condition 4 of 8/12/2002 permit, as amended 6/29/2006)

- c. TE1-RC: Emissions from the operation of the Pre-coat Roller Station (TE1-RC) shall not exceed the limit specified below:

VOC 9.46 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260 and Condition 10 of 4/28/2006 permit)

- d. TE1-MC1: Emissions from the operation of the Tile Line Extruder 1 (TE1-MC1) shall not exceed the limit specified below:

VOC 5.40 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260, and Condition 11 of 4/28/2006 permit)

- e. TE1-MC2: Emissions from the operation of the Tile Line Extruder 2 (TE1-MC2) shall not exceed the limit specified below:

VOC 8.65 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260, and Condition 12 of 4/28/06 permit)

- f. LPCR-1: Emissions from the operation of the Latex Pre-coat Range (LPCR-1) shall not exceed the limits specified below.

VOC 6.6 lbs/hr 28.9 tons/yr

(9 VAC 5-80-110 and Condition 8 of 3/24/2011 Permit)

34. **Process Equipment Requirements – Carpet Backing Lines – Limitations** – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance;
- b. Maintain an inventory of spare parts;
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturers' recommendations, at a minimum;
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of training provided including the names of trainees, the date of the training, and the nature of the training.

(9 VAC 5-80-110, Condition 11 of 8/22/2002 Permit as amended 6/29/2006, Condition 23 of 4/28/2006 Permit, Condition 19 of 3/27/2006 Permit, Condition 20 of the 7/13/2011 Permit, Condition 12 of the 7/30/2009 Permit, and Condition 14 of 3/24/2011 Permit)

- 35. Process Equipment Requirements – Carpet Backing Lines – Monitoring –** Particulate Matter (PM) Emissions Determination: The permittee shall determine compliance with the hourly particulate matter emission limit in Condition 33.a by calculating daily the average hourly emissions from the PVC carpet backing line (PVC1) using the following equation:

$$E_{PM} = \left( \frac{M \times EF_{plast}}{H} \right) \left( \frac{100 - CE_{cf}}{100} \right)$$

..... Equation 12

Where:

- $E_{PM}$  = the daily average hourly particulate matter emissions in pounds per hour
- $M$  = the total throughput of plastisol formula, in pounds, used in the PVC carpet backing line (PVC1) during the calendar day
- $H$  = the total number of hours of operation for the PVC carpet backing line (PVC1) during the calendar day
- $EF_{plast}$  = the DEQ-approved emission factor in pounds of particulate per pound of plastisol
- $CE_{cf}$  = control efficiency of the coalescing filter

(9 VAC 5-80-110)

- 36. Process Equipment Requirements – Carpet Backing Lines – Monitoring –**The permittee shall determine compliance with the annual particulate matter emission limit in Condition 33.a by calculating the monthly emissions from the PVC carpet backing line (PVC1) using the following equation:

$$E_{PM} = \left( \frac{M \times EF_{plast}}{2000} \right) \left( \frac{100 - CE_{cf}}{100} \right)$$

..... Equation 13

Where:

$E_{PM}$  = the monthly particulate matter emissions in tons

$M$  = the total throughput of plastisol formula, in pounds, used in the PVC carpet backing line (PVC1) during the calendar month

$EF_{plast}$  = the DEQ-approved emission factor in pounds of particulate per pound of plastisol

$CE_{cf}$  = control efficiency of the coalescing filter

Annual particulate matter emissions shall be calculated monthly as the sum of each consecutive 12-month period.  
 (9 VAC 5-80-110)

37. **Process Equipment Requirements – Carpet Backing Lines – Monitoring –**  
 Volatile Organic Compound (VOC) Emissions Determination: The permittee shall determine compliance with the annual VOC emission limits in Conditions 33 (33.a - 33.f) by calculating the monthly emissions from each of the following lines:

PVC Carpet Backing Line (PVC1);  
 Hot Melt Sample Line (HMS);  
 Pre-coat Roller Coater Station (TE1-RC);  
 Tile Line Extruder 1 (TE1-MC1);  
 Tile Line Extruder 2 (TE1-MC2); and  
 Latex Pre-coat Range (LPCR-1), respectively, using the following equation:

$$E_{voc} = \frac{\sum_{i=1}^n W_i M_i}{2000}$$

..... Equation 14

Where:

$E_{voc}$  = the total monthly VOC emissions in tons

$W_i$  = the weight fraction of VOC of each material (i) applied during the calendar month

$M_i$  = the total mass, in pounds, of each material (i) applied during the calendar month

Annual VOC emissions shall be calculated monthly as the sum of each consecutive 12-month period.  
 (9 VAC 5-80-110)



**38. Process Equipment Requirements – Carpet Backing Lines – Monitoring –**

Visible Emissions Evaluation (VEE): The permittee shall conduct a visible emissions inspection in accordance with the following procedures and frequencies.

- a. At a minimum of once per week, the permittee shall determine the presence of visible emissions. Each inspection shall be performed when the equipment is operating and include an observation of the presence of visible emissions and the pressure drop across each fabric or coalescing filter, as applicable to the source. If during the inspection visible emissions are observed, a visible emissions evaluation (VEE) shall be conducted in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) unless timely corrective action is taken such that the stack resumes operation with no visible emissions. The VEE shall be conducted for a minimum of six minutes. If any of the observations for the following sources exceed the opacity limit specified, the VEE shall be conducted for a total of 60 minutes.

(1) Twenty Percent

- (a) Latex Calcium Carbonate Filler Silo Stack (LCS)
- (b) Latex Pre-coat Range (LPCR-1)

(2) Five Percent

- (a) VAE Latex Filler Silo Stack (VAES)
- (b) Calcium Carbonate Storage Silo Stack (PVCS-C1)
- (c) Filler Storage Silo (PVCS-C2)
- (d) Feed Hopper (PVCS-FH)
- (e) PVC Carpet Backing Line Stack (PVC1)
- (f) Pellet Storage Silos (Pellet 4, Pellet 5, and Pellet 6)

- b. If visible emission inspections conducted during 12 consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

- c. All observations, VEE results and corrective actions taken shall be recorded.

(9 VAC 5-80-110)

**39. Process Equipment Requirements – Carpet Backing Lines – Monitoring** – Each of the following filters (either fabric or coalescing, as applicable) shall be equipped with a device to continuously measure the differential pressure drop across the filter. Each device shall be installed, calibrated, and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. To ensure good performance, the control device used to continuously measure the differential pressure drop shall be observed by the permittee with a frequency of not less than once per week. The permittee shall keep a log of the observations from the control monitoring device.

- a. Latex Calcium Carbonate Filler Silo Fabric Filter (LCS);  
(9 VAC 5-80-110)
- b. VAE Latex Filler Silo Fabric Filter (VAES);  
(9 VAC 5-80-110 and Condition 3 of the 7/30/09 Permit)
- c. PVC Carpet Backing Line
  - (1) Coalescing Filter (PVC1)  
(9 VAC 5-80-110 and Condition 4 of the 7/13/2011 Permit)
  - (2) Calcium Carbonate Storage Silo Fabric Filter (PVCS-C1), Filler Storage Silo (PVCS-C2), and Feed Hopper (PVCS-FH)  
(9 VAC 5-80-110 and Condition 5 of the 7/13/2011 Permit)
- d. Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1 through TE1-RTD4), Trial Pellet Receiver Tanks (TE1-T1 and TE1-T2) and Pellet Storage Silos (Pellet 4, Pellet 5, and Pellet 6)  
(9 VAC 5-80-110 and Condition 4 of the 4/28/2006 permit)

**Process Equipment Requirements – Carpet Backing Lines – Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters to demonstrate compliance with this permit. Compliance for consecutive 12-month periods shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

**40. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping** – VAES: Daily and annual throughput of calcium carbonate for the VAE latex filler silo (VAES). Daily throughput shall be calculated daily as the sum of each consecutive 24-hour period. Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 9 of the 7/30/2009 Permit)

**41. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping – PVC1**

- a. Daily hours of operation of the PVC carpet backing line (PVC1).
- b. Daily throughput of plastisol formula (in tons) used in the PVC carpet backing line (PVC1).
- c. Daily throughput of latex formula (in tons) used in the PVC carpet backing line (PVC1).
- d. Annual throughput of plastisol formula (in tons) used in the PVC carpet backing line (PVC1), calculated monthly as the sum of each consecutive 12-month period.
- e. Annual throughput of latex (in tons) used in the PVC carpet backing line (PVC1), calculated monthly as the sum of each consecutive 12-month period.
- f. Hourly PM, PM-10, and VOC emissions (in pounds) from the PVC carpet backing line (PVC1), calculated as a daily average.
- g. Annual PM, PM-10 and VOC emissions (in tons) from the PVC carpet backing line (PVC1), calculated as the sum of each consecutive 12-month period.
- h. Total daily throughput of calcium carbonate (in tons) to the calcium carbonate storage silo (PVCS-C1) and filler material to the filler silo (PVCS-C2), calculated daily.
- i. Total annual throughput of calcium carbonate (in tons) to the calcium carbonate storage silo (PVCS-C1) and filler material to the filler silo (PVCS-C2), calculated monthly as the sum of each consecutive 12-month period.

(9-VAC 5-50-110 and Condition 15 of 7/13/2011 Permit)

**42. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping – Hot Melt Sample Line (HMS)**

- a. Annual throughput of VOC (in tons) in the materials used in the hot melt sample line (HMS), calculated monthly as the sum of each consecutive 12-month period.
- b. Annual VOC emission (in tons) from HMS, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 5 of 8/12/2002 permit, as amended 6/29/2006)

**43. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping – R&D Sample Hot Melt Extruder (HME-S)**

- a. Annual throughput of pre-blended pellets (in tons) for the R&D sample hot melt extruder (HME-S), calculated monthly as the sum of each consecutive 12-month period;
- b. Annual VOC emissions (in tons) from HME-S, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 14 of 3/27/2006 permit)

**44. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping – Tile Extrusion Line (TE1)**

- a. Daily hours of operation of TE1.
- b. Daily throughput of pre-blended pellets (in tons) for each tile line extruder (TE1-MC1 and TE1-MC2).
- c. Annual throughput of pre-coat resin (in tons) for the pre-coat roller coater station (TE1-RC), calculated monthly as the sum of each consecutive 12-month period.
- d. Annual throughput of pre-blended pellets (in tons) for each tile line extruder (TE1-MC1 and TE1-MC2), calculated monthly as the sum of each consecutive 12-month period.
- e. Annual VOC emissions (in tons) for the pre-coat roller station (TE1-RC), calculated monthly as the sum of each consecutive 12-month period.
- f. Annual VOC emissions (in tons) from each tile line extruder (TE1-MC1 and TE1-MC2), calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 18 of 4/28/2006 permit)

**45. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping – Latex Pre-coat Range (LPCR-1)**

- a. Annual throughput of VOC used for latex mix, calculated monthly as the sum of each consecutive 12-month period.
- b. Annual throughput of VOC used for topical mix, calculated monthly as the sum of each consecutive 12-month period.

- c. Annual emission calculations for VOC from LPCR-1, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 9 of 3/24/2011 Permit)

**46. Process Equipment Requirements – Carpet Backing Lines – Recordkeeping –**  
General Recordkeeping Requirements applicable to all Carpet Backing Lines

- a. Air pollution control equipment maintenance and training provided, in accordance with Condition 34;
- b. MSDS or other vendor information showing VOC content, HAP content, water content, and solids content for each component of the following materials:
  - (1) Plastisol formula
  - (2) Latex formula
  - (3) Materials used on the Hot Melt Sample Line (HMS)
  - (4) Pre-blended Pellets
  - (5) Pre-coat Resin
  - (6) Material stored in the filler silo (PVCS-C2)
  - (7) Latex mix (LPCR-1)
  - (8) Topical mix (LPCR-1)
- c. Scheduled and non-scheduled maintenance;
- d. Operator Training;
- e. Results of all visible emissions evaluations;
- f. Inspection records;
- g. DEQ-approved, pollutant-specific emission factors and the equations used to demonstrate compliance; and
- h. Operation and control device monitoring records for the differential pressure drop gauge as required in Condition 39.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110, Condition 5 of 8/12/02 Permit, as amended 6/29/06, Condition 14 of 3/27/06 Permit, Condition 18 of 4/28/06 Permit, Condition 9 of 7/30/09 Permit, Condition 9 of 3/24/2011 Permit, and Condition 15 of 7/13/2011 Permit)

- 47. Process Equipment Requirements – Carpet Backing Lines – Testing** – The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. Test ports shall be provided at the appropriate locations when requested.

(9 VAC 5-80-110, Condition 13 of 3/27/2006 Permit, Condition 7 of 4/28/2006 Permit, Condition 5 of 7/30/2009 Permit, Condition 3 of 3/24/2011 Permit, and Condition 6 of 7/13/2011 Permit)

- 48. Process Equipment Requirements – Carpet Backing Lines – Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.

(9 VAC 5-80-110)

## **Hazardous Air Pollutant Conditions – Printing, Coating, and Dyeing of Fabrics and Other Textiles**

The following terms and conditions are from 40 CFR Part 63, Subpart OOOO. As used in this section, all terms shall have the meaning as defined in 40 CFR 63.2 and 40 CFR 63.4371.

### *Web Coating and Printing Subcategory*

The affected source for the web coating and printing subcategory is the collection of all of the items listed in the following items (1) through (5), which includes, but is not limited to:

- PVC Carpet Backing Line, including the oven (PVC1);
- Latex Pre-coat Range and tile line singer (LPCR-1);
- SBR Latex Mixer (SBRM);
- VAE Latex Mixer (VAEM);
- Diisononyl Phthalate Storage Tanks (DINP1 and DINP2);
- Pre-coat Roller Coater Station (TE1-RC);
- Tile Line Extruders 1 and 2 (TE1-MC1 and TE1-MC2);
- Hot Melt Sample Line (HMS);
- R&D Sample Hot Melt Extruder (HME-S); and
- Wastewater Treatment Plant (WWTP).

that are used in fabric and other textiles web coating and printing operations. The regulated materials for the web coating and printing subcategory are the coating, printing, thinning and cleaning materials used in the affected source.

- (1) All web coating and printing equipment used to apply cleaning materials to a substrate on the coating or printing line to prepare it for coating or printing material application, to apply coating or printing materials to a substrate and to dry or cure the coating or printing materials, or equipment used to clean web coating/printing operation equipment;
- (2) All containers used for storage and vessels used for mixing coating, printing, thinning, or cleaning materials;
- (3) All equipment and containers used for conveying coating, printing, thinning, or cleaning materials;
- (4) All containers used for storage, and all equipment and containers used for conveying waste materials generated by a coating or printing operation; and

- (5) All equipment, structures, and/or devices(s) used to convey, treat, or dispose of wastewater streams or residuals generated by a coating or printing operation.

*Dyeing and Finishing Subcategory*

The affected source for the dyeing and finishing subcategory is the collection of all of the items listed in the following paragraphs (1) through (5), which includes, but is not limited to:

- Ilma Dye Lines #1 and #2 (YD1 and YD2);
- Superba Dye Lines (SL1 – SL4)
- Ilma Sample Line (YD3);
- Lanly Dryer (YD4);
- Belmont Dye Line (BL1);
- Pack Kettles (YD5);
- Self Lock Dryer (SLD);
- Dye Mixers;
- Parts Washers (PW); and
- Wastewater Treatment Plant (WWTP)

that are used in dyeing and finishing operations. The regulated materials for the dyeing and finishing subcategory are the dyeing and finishing materials used in the affected source.

- (1) All dyeing and finishing equipment used to apply dyeing or finishing materials, to fix dyeing materials to the substrate, to rinse the textile substrate, or to dry or cure the dyeing or finishing materials;
- (2) All containers used for storage and vessels used for mixing dyeing or finishing materials;
- (3) All equipment and containers used for conveying dyeing or finishing materials;
- (4) All containers used for storage, and all equipment and containers used for conveying, waste materials generated by a dyeing or finishing operation; and
- (5) All equipment, structures, and/or devices(s) used to convey, treat, or dispose of wastewater streams or residuals generated by a dyeing or finishing operation.

49. **Hazardous Air Pollutant Conditions – Limitations** – Organic hazardous air pollutant (HAP) emissions from the facility shall not exceed the following limits:



- a. For web coating and printing operations, organic HAP emissions to the atmosphere are limited to 0.12 kilogram (kg) of organic HAP per kg of solids applied.
- b. For dyeing and finishing operations, organic HAP emissions to the atmosphere are limited to 0.016 kg of organic HAP per kg of dyeing and finishing materials applied.
- c. For the Latex Pre-coat Range (LPCR-1), organic HAP emissions to the atmosphere are limited to 0.08 kg of organic HAP per kg of solids applied, calculated as a rolling 12-month average emission rate.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63.4290)

**50. Hazardous Air Pollutant Conditions – Limitations** – The permittee shall meet the following operation and maintenance requirements:

- a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the facility, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards.
- b. Malfunctions shall be corrected as soon as practicable after their occurrence.
- c. Operation and maintenance requirements established pursuant to section 112 of the Clean Air Act are enforceable independent of emissions limitations or other requirements in relevant standards.
- d. Determination of whether operation and maintenance procedures are being used will be based on information available to the DEQ which may include, but is not limited to, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(9 VAC 5-170-160, 9 VAC 5-80-110, and 40 CFR 63.6(e))

**51. Hazardous Air Pollutant Conditions – Monitoring** – To demonstrate compliance with the organic HAP emission limitation in Condition 49.a, the permittee shall apply one of the following options to an individual web coating/printing operation or to multiple web coating printing operations in the affected source as a group, or to the entire affected source in the web coating and printing subcategory. The permittee may use either compliance option for different web coating/printing operations or at different times on the same web coating/printing operation. However, the permittee shall not use different compliance options at the same time on the same web coating/printing operation. If the permittee switches between compliance options for any web coating/printing operation or group of operations,

the permittee shall document this switch as required by Condition 57.c and shall report it in the next semiannual compliance report required in Condition 58.

- a. *Compliant material option:* Demonstrate that the organic HAP content, as purchased, of each coating and printing material applied in the web coating/printing operation(s) is less than or equal to the emission limit in Condition 49.a, and that each thinning and cleaning material as purchased contains no organic HAP (as defined in 40 CFR 63.4371). The permittee shall meet all the requirements of Condition 53 to demonstrate compliance with the emission limit using this option.
- b. *Emission rate without add-on controls option:* Demonstrate that, based on the regulated materials applied in the web coating/printing operation(s), the organic HAP emission rate for the web coating/printing operation(s) is less than or equal to the emission limit in Condition 49.a, calculated as a rolling 12-month average emission rate. The permittee shall meet all the requirements in Condition 54 to demonstrate compliance with the emission limit using this option.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63.4291(a)(1) and (2))

**52. Hazardous Air Pollutant Conditions – Monitoring** – To demonstrate compliance with the organic HAP emission limitations in Conditions 49.b and 49.c, the permittee shall apply one of the following options to an individual dyeing/finishing operation or to multiple dyeing/finishing operations in the affected source as a group, or to the entire affected source in the dyeing and finishing subcategory. The permittee may use either compliance option for different dyeing/finishing operations or at different times on the same web dyeing/finishing operation. However, the permittee shall not use different compliance options at the same time on the same dyeing/finishing operation. If the permittee switches between compliance options for any dyeing/finishing operation or group of operations, the permittee shall document this switch as required by Condition 57.c and shall report it in the next semiannual compliance report required in Condition 58.

- a. *Compliant material option.* Demonstrate that the mass fraction of organic HAP, as purchased, of each dyeing and finishing material applied in the dyeing/finishing operation(s) is less than or equal to the emission limits in Condition 49.b and Condition 49.c, applicable. The permittee shall meet all the requirements of Condition 53 to demonstrate compliance with the emission limit using this option.
- b. *Emission rate without add-on controls option.* Demonstrate that, based on the dyeing and finishing materials applied in the dyeing/finishing operation(s), the combined organic HAP emission rate for dyeing and finishing is less than or equal to the emission limit in Condition 49.b or Condition 49.c, as applicable, calculated as a rolling 12-month average emission rate. The permittee shall meet

all the requirements of Condition 54 to demonstrate compliance with the emission limit using this option.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63.4291(c)(1) and (2))

**53. Hazardous Air Pollutant Conditions – Monitoring** – Compliance with the compliant material option shall be determined based on the following:

- a. Any web coating/printing or dyeing/finishing operation(s) shall be in compliance with the applicable emission limit at all times.
- b. The permittee shall demonstrate continuous compliance by the following:
  - (1) For each compliance period, the permittee shall apply no coating or printing material for which the organic HAP content determined using Equation 15 of Condition 55.c exceeds the emission limit in Condition 49.a.
  - (2) For each compliance period, the permittee shall apply no dyeing or finishing material for which the mass fraction of organic HAP, determined according to the requirements of Condition 55.a(4), exceeds the emission limits in Condition 49.b and Condition 49.c.
  - (3) For each compliance period, the permittee shall apply only thinning or cleaning materials that contain no organic HAP (as defined in 40 CFR 63.4371) in a coating/printing affected source.
  - (4) Each month following the initial compliance period is a compliance period.
  - (5) The application of any regulated material that does not meet the criteria specified in Conditions 53.b(1) through 53.b(3) is a deviation from the emission limitations that shall be reported as specified in Condition 58.
  - (6) As part of each semiannual compliance report required by Condition 58., the permittee shall identify any web coating/printing operation or dyeing/finishing operation for which the compliant material option was used. If there were no deviations from the applicable emission limit in Condition 49, submit a statement that, as appropriate, the web coating/printing operations were in compliance with the emission limitations during the reporting period because no coating or printing material for which the organic HAP content exceeded the emission limit in Condition 49.a was applied, and only thinning and cleaning materials that contained no organic HAP (as defined in §63.4371) in a web coating/printing affected source were applied; and the dyeing/finishing operations were in compliance with the emission limitations during the reporting period because no dyeing or finishing material for which the mass

fraction of organic HAP exceeded the emission limit in Condition 49.b or Condition 49.c was applied.

(7) The permittee shall maintain records as specified in Condition 57.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110, 40 CFR 63.4300(a)(1), and 40 CFR 63.4322)

**54. Hazardous Air Pollutant Conditions – Monitoring** – Compliance with the emission rate without add-on controls option shall be determined based on the following:

- a. Any web coating/printing or dyeing/finishing operation(s) shall be in compliance with the applicable emission limit for all compliance periods.
- b. The permittee shall demonstrate continuous compliance by the following:
  - (1) For each compliance period, the organic HAP emission rate determined according to Condition 56.a for web coating/printing operations and according to Condition 56.b for dyeing/finishing operations must be less than or equal to the applicable emission limit in Condition 49. Each month following the initial compliance period is a compliance period consisting of that month and the preceding 11 months. The permittee shall perform the calculations in Condition 56 on a monthly basis.
  - (2) If the organic HAP emission rate for any compliance period exceeded the applicable emission limit in Condition 49, this is a deviation from the emission limitations for that compliance period and shall be reported as specified in Condition 58.
  - (3) As part of each semiannual compliance report required by Condition 58, the permittee shall identify any web coating/printing operation or dyeing/finishing operation for which the emission rate without add-on controls option was used. If there were no deviations from the applicable emission limit in Condition 49, the permittee shall submit a statement that, as appropriate, the web coating/printing operations or the dyeing/finishing operations were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in Condition 49.
  - (4) The permittee shall maintain records as specified in Condition 57.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110, 40 CFR 63.4300(a)(2), 40 CFR 63.4330 and 40 CFR 63.4332)

**55. Hazardous Air Pollutant Conditions – Monitoring** – To demonstrate initial compliance with the emission limitations using the compliant material option, the permittee shall meet all the following requirements for any individual web coating/printing or dyeing/finishing operation, for any group of web coating/printing or dyeing/finishing operations in the affected source or for all the web coating/printing or dyeing/finishing operations in the affected source using this option. The permittee shall use the following applicable procedures on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. The permittee does not need to re-determine the organic HAP content of regulated materials that are reclaimed onsite and reused in the web coating/printing operation or the dyeing/finishing operation for which the permittee uses the compliant material option, provided these regulated materials in their condition as received were demonstrated to comply with the compliant material option.

- a. *Determine the mass fraction of organic HAP for each material.* The permittee shall determine the mass fraction of organic HAP for each regulated material applied during the compliance period by using one of the following procedures. The permittee shall only use the option in Condition 55.a(4) for each printing, dyeing or finishing material applied during the compliance period.
  - (1) *Method 311 (Appendix A to 40 CFR part 63).* The permittee may use Method 311 for determining the mass fraction of organic HAP. The following procedures shall be used when performing a Method 311 test.
    - (a) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. Express the mass fraction of each organic HAP counted as a value truncated to no more than four places after the decimal point.
    - (b) Calculate the total mass fraction of organic HAP in the regulated material being tested by adding up the individual organic HAP mass fractions and truncating the result to no more than three places after the decimal point.
  - (2) *Method 24 (Appendix A to 40 CFR part 60).* The permittee may use Method 24 to determine the mass fraction of non-aqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For a multi-component coating with reactive chemicals, the permittee may use Method 24 on the coating as applied to determine the mass fraction of non-aqueous volatile matter and use that value as a substitute for the mass fraction of organic HAP determined from the sum of organic HAP in each component.
  - (3) *Alternative method.* The permittee may use an alternative test method for determining the mass fraction of organic HAP, mass fraction of solids, or

fraction of organic HAP emitted from a reactive coating once the Administrator (U.S. Environmental Protection Agency) has approved it.

The permittee shall follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval.

- (4) *Information from the supplier or manufacturer of the material.* The permittee may rely on information other than that generated by the test methods specified in Conditions 55.a(1) through 55.a(3), such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. If there is a disagreement between such information and results of a test conducted according to Conditions 55.a(1) through 55.a(3) on the coating, thinning, or cleaning material, then the test method results will take precedence. Information from the supplier or manufacturer of the printing, dyeing, or finishing material is sufficient for determining the mass fraction of organic HAP.
- (5) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which shall be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, the permittee may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 4 or 5 to 40 CFR 63, Subpart OOOO. If the tables are used, the permittee shall use the values in Table 4 for all solvent blends that match Table 4 entries and may only use Table 5 if the solvent blends in the materials used do not match any of the solvent blends in Table 4 and the permittee only knows whether the blend is aliphatic or aromatic. However, if the results of a Method 311 test indicate higher values than those listed on Table 4 or 5 to 40 CFR 63, Subpart OOOO, the Method 311 results will take precedence.

- b. *Determine the mass fraction of solids for each coating and printing material.* The permittee shall determine the mass fraction of solids (kg of solids per kg of coating or printing material) for each coating material applied during the compliance period by a test or by information provided by the supplier or the manufacturer of the material, as specified in Conditions 55.b(1) through 55.b(3). If test results obtained according to Condition 55.b(1) or 55.b(2) for a coating material do not agree with the information obtained under Condition 55.b(3), the test results will take precedence. To determine mass fraction of solids for each printing material applied during the compliance period, the permittee shall use information provided by the supplier or manufacturer of the material, as specified in Condition 55.b(3).
- (1) *Method 24 (Appendix A to 40 CFR part 60).* The permittee may use Method 24 for determining the mass fraction of solids of coating materials.
- (2) *Alternative method.* The permittee may use an alternative test method for determining solids content of each coating material once the Administrator (U.S. Environmental Protection Agency) has approved it. The permittee shall follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval.
- (3) *Information from the supplier or manufacturer of the material.* The permittee may obtain the mass fraction of solids for each coating and printing material from the supplier or manufacturer. If there is disagreement between such information and the test method results for a coating material, then the test method results will take precedence.
- c. *Calculate the organic HAP content of each coating or printing material.* The permittee shall calculate the organic HAP content, kg organic HAP per kg of solids, of each coating and printing material applied during the compliance period, using the following equation:

$$H_c = (W_c)/(W_f)$$

..... Equation 15

Where:

$H_c$  = Organic HAP content of the coating or printing material, kg organic HAP per kg solids in the coating or printing material.

$W_c$  = Mass fraction of organic HAP in the coating or printing material, kg organic HAP per kg material, determined according to Condition 55.a.

$W_f$  = Mass fraction of solids in coating or printing material, kg solids per kg of coating or printing material, determined according to Condition 55.b.

d. *Compliance demonstration.* The calculated organic HAP content for each coating and printing material applied during the initial compliance period shall be less than or equal to the emission limit in Condition 49.a and each thinning and cleaning material applied during the initial compliance period shall contain no organic HAP as defined in 40 CFR 63.4371. The mass fraction of organic HAP for each dyeing and finishing material applied during the initial compliance period, determined according to Condition a(4), shall be less than or equal to the emission limit in Condition 49.b. The permittee shall keep all records required by Condition 57. As part of the Notification of Compliance Status required in Condition 58, the permittee shall:

- (1) Identify any web coating/printing operation and dyeing/finishing operation for which the compliant material option was used;
- (2) Submit a statement that the web coating/printing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because no coating and printing material for which the organic HAP content exceeds the emission limit in Condition 49.a were applied and only thinning materials and cleaning materials that contained no organic HAP, as defined in 40 CFR 63.4371, were applied;
- (3) Submit a statement that the dyeing/finishing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because no dyeing and finishing material for which the mass fraction of organic HAP exceeds the emission limit in Condition 49.b were applied.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63.4321(e))

**56. Hazardous Air Pollutant Conditions – Monitoring** – To demonstrate continuous compliance with the emission limitations using the emission rate without add-on controls option:

- a. The permittee shall meet all the following requirements for any individual web coating/printing operation, for any group of web coating/printing operations in the affected source or for all the web coating/printing operations as a group in the affected source using this option. When calculating the organic HAP emission rate according to the following requirements, do not include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which the compliant material option was used. The permittee shall use the following procedures on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration.



- (1) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each coating, printing, thinning, and cleaning material applied during the compliance period according to the requirements in Condition 55.a.
- (2) *Determine the mass fraction of solids for each material.* Determine the mass fraction of solids (kg of solids per kg of coating or printing material) for each coating and printing material applied during the compliance period according to the requirements in Condition 55.b.
- (3) *Determine the mass of each material.* Determine the mass (kg) of each coating, printing, thinning, or cleaning material applied during the compliance period by measurement or usage records.
- (4) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using the following equation:

$$H_e = A + B - R_w$$

..... Equation 16

Where:

$H_e$  = Mass of organic HAP emissions during the compliance period, kg.

$A$  = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg, as calculated in Equation 17 in Condition 56.a(4)(a) .

$B$  = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg, as calculated in Equation 18 in Condition 56.a(4)(b).

$R_w$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste treatment, storage and disposal facility (TSDF) for treatment or disposal during the compliance period, kg, determined according to Condition 56.a(4)(c). (You may assign a value of zero to  $R_w$  if you do not wish to use this allowance.)

- (a) Calculate the kg organic HAP in the coating and printing materials applied during the compliance period using the following equation:

$$A = \sum_{i=1}^m (M_{c,i})(W_{c,i})$$

..... Equation 17

Where:

- A = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg.
- $M_{c,i}$  = Total mass of coating or printing material, i, applied during the compliance period, kg.
- $W_{c,i}$  = Mass fraction of organic HAP in coating or printing material, i, kg organic HAP per kg of material.
- m = Number of different coating and printing, materials applied during the compliance period.

- (b) Calculate the kg of organic HAP in the thinning and cleaning materials applied during the compliance period using the following equation:

$$B = \sum_{j=1}^n (M_{t,j})(W_{t,j})$$

..... Equation 18

Where:

- B = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg.
- $M_{t,j}$  = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.
- $W_{t,j}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg organic HAP per kg thinning or cleaning material.
- n = Number of different thinning and cleaning materials applied during the compliance period.

- (c) If the permittee chooses to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste

TSDF in Equation 16 of Condition 56.a(4), then the permittee shall determine it according to the following:

- (i) The permittee may include in the determination only waste materials that are generated by web coating/printing operations in the affected source for which Equation 16 of Condition 56.a(4) was used and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. The permittee may not include organic HAP contained in wastewater.
- (ii) The permittee shall determine either the amount of the waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period designated for future transport to a TSDF. Do not include in the determination any waste materials sent to a TSDF during a compliance period if it has already been included in the amount collected and stored during that compliance period or a previous compliance period.
- (iii) Determine the total mass of organic HAP contained in the waste materials specified in Condition 56.a(4)(c)(ii) .
- (iv) The permittee shall document the methodology used to determine the amount of waste materials and the total mass of organic HAP they contain, as required in Condition 57.g. To the extent that waste manifests include this, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

- (5) *Calculate the total mass of coating and printing solids.* Determine the total mass of coating and printing solids applied, kg, which is the combined mass of the solids contained in all the coating and printing materials applied during the compliance period, using the following equation:

$$H_t = \sum_{i=1}^m (M_{c,i})(W_{f,i})$$

..... Equation 19

Where:

$H_t$  = Total mass of solids contained in coating and printing materials applied during the compliance period, kg.

$M_{c,i}$  = Mass of coating or printing material, i, applied during the compliance period, kg.

$W_{f,i}$  = mass fraction of solids in coating or printing material, i, applied during the compliance period, kg solids per kg of coating or printing material.

m = Number of coating and printing materials applied during the compliance period.

- (6) Calculate the organic HAP emission rate for the compliance period, kg organic HAP emitted per kg solids used, using the following equation:

$$H_{yr} = \frac{H_e}{H_t}$$

..... Equation 20

Where:

$H_{yr}$  = Organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of solids in coating and printing materials applied.

$H_e$  = Total mass organic HAP emissions from all coating, printing, thinning, and cleaning materials applied during the compliance period, kg, as calculated by Equation 16 of Condition 56.a(4).

$H_t$  = Total mass of coating and printing solids in materials applied during the compliance period, kg, as calculated by Equation 19 of Condition 56.a(5).

- b. The permittee shall meet all the following requirements for any individual dyeing/finishing operation, for any group of dyeing/finishing operations in the affected source or for dyeing/finishing operations as a group in the affected source using this option. When calculating the organic HAP emission rate according to the following requirements, do not include any dyeing and finishing materials applied on dyeing/finishing operations for which the compliant material option was used. The permittee shall use the following procedures on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. Water added in mixing at the affected source is not a regulated material and should not be included in the determination of the total mass of dyeing and finishing materials applied during the compliance period, using Equation 23 of Condition 56.aa(4).

- (1) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each dyeing and finishing material applied during the compliance period according to the requirements in Condition 55.a(4).

- (2) *Determine the mass of each material.* Determine the mass (kg) of each dyeing and finishing material applied during the compliance period by measurement or usage records.
- (3) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all dyeing and finishing materials applied during the compliance period minus the organic HAP in certain waste materials and wastewater streams. Calculate the mass of organic HAP emissions using following equation:

$$H_e = A - R_w - WW$$

..... Equation 21

Where:

$H_e$  = Mass of organic HAP emissions during the compliance period, kg.

$A$  = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg, as calculated in Equation 22 of Condition 56.b(3)(a).

$R_w$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to Condition 56.b(3)(b) . (You may assign a value of zero to  $R_w$  if you do not wish to use this allowance.)

$WW$  = Total mass of organic HAP in wastewater discharged to a POTW or receiving onsite secondary treatment during the compliance period, kg, determined according to Condition 56.b(3)(c). (You may assign a value of zero to  $WW$  if you do not wish to use this allowance.)

- (a) Calculate the kg organic HAP in the dyeing and finishing materials applied during the compliance period using the following equation:

$$A = \sum_{i=1}^m (M_{c,i})(W_{c,i})$$

..... Equation 22

Where:

- A = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg.
- $M_{c,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period, kg.
- $W_{c,i}$  = Mass fraction of organic HAP in dyeing or finishing material, i, kg organic HAP per kg of material.
- m = Number of dyeing and finishing materials applied during the compliance period.

- (b) If the permittee chooses to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 21 of Condition 56.b(3), then the permittee shall determine it according to the following:
- (i) The permittee may include in the determination only waste materials that are generated by dyeing/finishing operations in the affected source for which Equation 21 of Condition 56.b(3) was used and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. The permittee may not include organic HAP contained in wastewater.
  - (ii) The permittee shall determine either the amount of the waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a compliance period if it has already been included in the amount collected and stored during that compliance period or a previous compliance period.
  - (iii) Determine the total mass of organic HAP contained in the waste materials specified in Condition 56.b(3)(b)(ii).
  - (iv) The permittee shall document the methodology used to determine the amount of waste materials and the total mass of organic HAP they contain, as required in Condition 57.g. To the extent that waste manifests include this, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.
- (c) If the permittee chooses to account for the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge in

Equation 21 of Condition 56.b(3)(3), then the permittee shall determine it according to Condition 56.c.

- (4) *Calculate the total mass of dyeing and finishing materials.* Determine the total mass of dyeing and finishing materials applied, kg, which is the combined mass of all the dyeing and finishing materials applied during the compliance period, using the following equation:

$$M_t = \sum_{i=1}^m (M_{c,i})$$

..... Equation 23

Where:

$M_t$  = Total mass of dyeing and finishing materials applied during the compliance period, kg.

$M_{c,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period, kg.

m = Number of dyeing and finishing materials applied during the compliance period.

- (5) Calculate the organic HAP emission rate, kg organic HAP emitted per kg dyeing and finishing material applied, using the following equation:

$$H_{yr} = \frac{H_e}{M_t}$$

..... Equation 24

Where:

$H_{yr}$  = The organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of dyeing and finishing materials.

$H_e$  = Total mass of organic HAP emissions during the compliance period, kg, as calculated by Equation 21 of Condition 56.b(3).

$M_t$  = Total mass of dyeing and finishing materials applied during the compliance period, kg, as calculated by Equation 23 of Condition 56.b(4).

- c. If the permittee chooses to account for the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge in Equation 21 of Condition 56.b(3), then the permittee shall determine it according to Conditions 56.c(1) through 56.c(5). The permittee may include in the determination only wastewater streams that are generated by dyeing/finishing operations in the affected source for which Equation 21 of Condition 56.b(3) was used. The permittee shall determine the mass of organic HAP from the average organic HAP concentration and mass flow rate of each wastewater stream generated by the affected dyeing/finishing operation (or group of dyeing/finishing operations discharging to a common wastewater stream) for which this allowance was used. The permittee shall consider the actual or anticipated production over the compliance period and include all wastewater streams generated by the affected dyeing/finishing operation(s) during this period. A performance test of the organic HAP loading to the wastewater shall be performed for each operating scenario, as defined in 40 CFR 63.4371, during the compliance period.
- (1) *Procedure to determine average organic HAP concentration.* The permittee shall determine the average organic HAP concentration,  $H_w$ , of each wastewater stream according to the following:
- (a) *Sampling.* Wastewater samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a one-hour period (or over the period that wastewater is being discharged from a batch process if it is shorter than a one-hour period). Each one-hour period constitutes a run and a performance test shall consist of a minimum of runs.
  - (b) *Methods.* The permittee may use any of the following methods specified to determine the organic HAP content of the wastewater stream. The method shall be an analytical method for wastewater which has the organic HAP compound discharged to the wastewater as a target analyte.
    - (i) *Method 305.* Use procedures specified in Method 305 of 40 CFR part 63, appendix A.
    - (ii) *Methods 624 and 625.* Use procedures specified in Method 624 and Method 625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in Condition 56.c(1)(c). If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted based on the accuracy as recovery factors in Table 7 of the method.



- (iii) *Methods 1624 and 1625.* Use procedures specified in Method 1624 and Method 1625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in Condition 56.c(1)(c). If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed.
  - (iv) *Other EPA method(s).* Use procedures specified in the method and comply with the requirements specified in Condition 56.c(1)(c) and either Condition 56.c(1)(d)(i) or 56.c(1)(d)(ii).
  - (v) *Methods other than EPA method.* Use procedures specified in the method and comply with the requirements specified in Condition 56.c(1)(c) and Condition 56.c(1)(d)(i).
- (c) *Sampling plan.* If the permittee has been expressly referred to this condition by provisions of this permit, the permittee shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sampling plan shall include procedures for determining recovery efficiency of the relevant organic HAP. An example of a sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR part 60, appendix A. The permittee shall maintain the sampling plan at the facility.
- (d) *Validation of methods.* The permittee shall validate EPA methods other than Methods 305, 624, 625, 1624, 1625 using one of the following specified procedures.
- (i) *Validation of EPA methods and other methods.* The method used to measure organic HAP concentrations in the wastewater shall be validated according to section 5.1 or 5.3, and the corresponding calculations in section 6.1 or 6.3, of Method 301 of 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in section 6.1.5 or 6.3.3 of Method 301 of 40 CFR part 63, appendix A. If correction is required under section 6.3.3 of Method 301 of 40 CFR part 63, appendix A, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 of 40 CFR part 63, appendix A, are not required.
  - (ii) *Validation for EPA methods.* Follow the procedures as specified in "Alternative Validation Procedure for EPA Waste Methods" 40 CFR part 63, appendix D.

- (e) *Calculate the average concentration.* The permittee shall calculate the average concentration for each individually speciated organic HAP compound by adding the individual values determined for the specific compound in each sample and dividing by the number of samples.
  - (f) *Adjustment for concentrations determined downstream of the point of determination.* The permittee shall make corrections to the specific compound average concentration or total organic HAP average concentration when the concentration is determined downstream of the point of determination at a location where either wastewater streams from outside of the affected dyeing/finishing operation or group of dyeing/finishing operations have been mixed with the affected wastewater stream or one or more affected wastewater streams have been treated. The permittee shall make the adjustments either to the individual data points or to the final average organic HAP concentration.
- (2) *Procedures to determine mass flow rate.* For each operating scenario, as defined in 40 CFR 63.4371, for which the permittee has determined the organic HAP content of the wastewater stream, the permittee shall determine the annual average mass flow rate,  $F_w$ , of the wastewater stream either at the point of determination or downstream of the point of determination with adjustment for flow rate changes made according to Condition 56.c(2)(b). The annual average mass flow rate for the wastewater stream shall be representative of actual or anticipated operation of the dyeing/finishing operation(s) generating the wastewater over the compliance period. The permittee shall determine the annual average mass flow rate of each wastewater stream according to Conditions 56.c(2)(a) and 56.c(2)(b).
- (a) *Procedures.* The following procedures specified are considered acceptable procedures for determining the mass flow rate. They may be used in combination, and no one procedure shall take precedence over another.
    - (i) *Knowledge of the wastewater.* The permittee may use knowledge of the wastewater stream and/or the process to determine the annual average mass flow rate. The permittee shall use the maximum expected annual average production capacity of the dyeing/finishing operation(s), knowledge of the process, and/or mass balance information to either estimate directly the average wastewater mass flow rate for the compliance period or estimate the total wastewater mass flow for the compliance period and then factor the total mass by the percentage of time in the compliance period the operating scenario is expected to represent. Where the permittee uses knowledge to determine the annual average mass flow rate, the permittee shall provide sufficient information to document the mass flow rate.

- (ii) *Historical records.* The permittee may use historical records to determine the average annual mass flow rate. Derive the highest annual average mass flow rate of wastewater from historical records representing the most recent five years of operation, or if the dyeing/finishing operation(s) has(have) been in service for less than five years but at least one year, from historical records representing the total operating life of the process unit. Where historical records are used to determine the annual average mass flow rate, the permittee shall provide sufficient information to document the mass flow rate.
- (iii) *Measurement of mass flow rate.* If the permittee elects to measure mass flow rate, the permittee shall comply with the requirements of this paragraph (condition). Measurements shall be made at the point of determination, or at a location downstream of the point of determination with adjustments for mass flow rate changes made according to Condition 56.c(2)(b). Where measurement data are used to determine the annual average mass flow rate, the permittee shall provide sufficient information to document the mass flow rate.
- (b) *Adjustment for flow rates determined downstream of the point of determination.* The permittee shall make corrections to the average annual mass flow rate of a wastewater stream when it is determined downstream of the point of determination at a location where either wastewater streams from outside of the affected dyeing/finishing operation or group of dyeing/finishing operations have been mixed with the affected wastewater stream or one or more wastewater streams have been treated. The permittee shall make corrections for such changes in the annual average mass flow rate.
- (3) *Wastewater treatment.* The permittee shall document that the wastewater is either discharged to a POTW or onsite secondary wastewater treatment.
- (4) *Determine the mass of organic HAP in the affected wastewater.* Determine the total mass of organic HAP, WW, contained in the wastewater streams characterized by the procedures in Conditions 56.c(2)(1) and 56.c(2), using the following equation:

$$WW = \sum_{k=1}^o (H_{w,k})(F_{w,k}) \times 10^{-3}$$

..... Equation 25

Where:

- WW = The total mass of organic HAP contained in the wastewater streams characterized by the procedures in Conditions 56.c(1) and 56.c(2), kg/yr
- $H_{w,k}$  = Average organic HAP concentration of wastewater stream k, ppmw
- $F_{w,k}$  = Annual average mass flow rate of wastewater stream k, Mg/yr
- $o$  = Number of wastewater streams characterized by the procedures in Conditions 56.c(1) and 56.c(2).

This is the allowance for organic HAP discharged to wastewater and not emitted to the atmosphere, WW, in Equation 21 of Condition 56.b(3).

- (5) *Determine the fraction of organic HAP applied that is discharged to the wastewater.* For the purpose of taking credit for the wastewater allowance in continuous compliance demonstrations, determine the fraction of organic HAP applied in affected dyeing/finishing processes that is discharged to the wastewater, *i.e.*, divide WW by the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, as calculated in Equation 22 of Condition 56.b(3)(a). The wastewater allowance for this fraction of organic HAP that is not emitted from the affected dyeing/finishing operation(s) may be taken for each compliance period that the operating scenario, as defined in 40 CFR 63.4371, does not change from conditions during the performance test in a way that could increase the fraction of organic HAP emitted (*e.g.*, an increase in process temperature or decrease in process pressure or a change in the type or mass fraction of organic HAP entering the dyeing/finishing operation.) The allowance, WW, must be calculated by multiplying the fraction of organic HAP applied in affected processes that is discharged to the wastewater determined from the most recent performance test by the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, as calculated in Equation 22 of Condition 56.b(3)(a).

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63.4331)

57. **Hazardous Air Pollutant Conditions – Recordkeeping** – The permittee shall collect and keep a record of the following data and information. Failure to collect and keep these records is a deviation from the applicable standard.

- a. A copy of each notification and report submitted to comply with 40 CFR 63, Subpart OOOO, and the documentation supporting each notification and report.
- b. A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data or test data used to determine the mass fraction of organic HAP for coating, printing, slashing, dyeing, finishing, thinning, and cleaning materials; and the mass fraction of solids for coating and printing materials. If the permittee conducted testing to determine mass fraction of organic HAP of coating materials or the mass fraction of solids of coating materials, the permittee shall keep a copy of the complete test report. If the permittee uses information provided by the manufacturer or supplier of the material that was based on testing, the permittee shall keep the summary sheet of results provided by the manufacturer or supplier. The permittee is not required to obtain the test report or other supporting documentation from the manufacturer or supplier.
- c. For each compliance period, the records specified in Condition 57.c(1) for web coating/printing operations and the records specified in Condition 57.c(2) for dyeing/finishing operations.
  - (1) A record of the web coating/printing operations on which each compliance option was used and the time periods (beginning and ending dates) each option was used. For each month, a record of all required calculations for the compliance option(s) used, as specified in the following:
    - (a) For the compliant material option, a record of the calculation of the organic HAP content, as purchased, for each coating and printing material applied, using Equation 15 of Condition 55.c.
    - (b) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coating, printing, thinning and cleaning materials applied each compliance period using Equations 16, 17 and 18 of Condition 56.a(4) and, if applicable, the calculation used to determine the mass of organic HAP in waste materials according to Condition 56.a(4)(c); the calculation of the total mass of the solids contained in all coating and printing materials applied each compliance period using Equation 19 of Condition 56.a(5); and the calculation of the organic HAP emission rate for each compliance period using Equation 20 of Condition 56.a(6).
  - (2) A record of the dyeing/finishing operations on which each compliance option was used and the time periods (beginning and ending dates) each option was used. For each month, a record of all required calculations for the compliance option(s) used, as specified in the following:

- (a) For the compliant material option, a purchase record of the mass fraction of organic HAP for each dyeing and finishing material applied, according to Condition 55.a(4).
- (b) For the emission rate without add-on controls option, the calculation for the total mass of organic HAP emissions for the dyeing and finishing materials applied each compliance period using Equations 21 and 22 of Condition 56.b(3) and, if applicable, the calculations used to determine the mass of organic HAP in waste materials according to Condition 56.b(3)(b) and the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge according to Condition 56.b(3)(c); the calculation of the total mass of dyeing and finishing materials applied each compliance period using Equation 23 of Condition 56.b(4); and the calculation of the organic HAP emission rate for each compliance period using Equation 24 of Condition 56.b(5).
- d. A record of the name and mass of each regulated material applied in the web coating and printing subcategory and the dyeing and finishing subcategory during each compliance period. If the compliant material option for all regulated materials at the source is being used, the permittee may maintain purchase records for each material used rather than a record of the mass used.
- e. A record of the mass fraction of organic HAP for each regulated material applied during each compliance period.
- f. A record of the mass fraction of coating and printing solids for each coating and printing material applied during each compliance period.
- g. If the permittee uses an allowance in Equation 16 of Condition 56.a(4) or Equation 21 of Condition 56.b(3) for organic HAP contained in waste materials sent to, or designated for shipment to, a treatment, storage, and disposal facility (TSDF) according to Condition 56.a(4)(c) or 56.b(3)(b), records of the following information shall be kept:
  - (1) The name and address of each TSDF to which the permittee sent waste materials for which the permittee used an allowance in Equation 16 of Condition 56.a(4) or Equation 21 of Condition 56.b(3), a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility, and the date of each shipment.
  - (2) Identification of the web coating/printing or dyeing/finishing operations producing waste materials included in each shipment and the compliance period(s) in which the permittee used the allowance for these materials in Equation 16 of Condition 56.a(4) or Equation 21 of Condition 56.b(3).

- (3) The methodology used in accordance with Condition 56.a(4)(c) or 56.b(3)(b) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each compliance period; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.
- h. If the permittee uses an allowance in Equation 21 of Condition 56.b(3) for organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge according to Condition 56.c, the permittee shall keep records of the following information:
  - (1) Documentation that the wastewater was either discharged to a POTW or onsite secondary wastewater treatment.
  - (2) Calculation of the allowance, WW, using the fraction of organic HAP applied in affected processes that is discharged to the wastewater determined from the most recent performance test and the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, calculated in Equation 21 of Condition 56.b(3).
- i. The permittee shall keep records of the date, time, and duration of each deviation.

These records shall be in a form suitable and readily available for expeditious review and inspection and, where appropriate, may be maintained as electronic spreadsheets or as a database. Each record shall be kept for five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. Each record shall be kept on site for at least two years after the date of each occurrence, measurement, maintenance, corrective action, report or record. The remaining three years for each record may be kept off site.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110, 40 CFR 63.4312(a) through (i) and 40 CFR 63.4313)

**58. Hazardous Air Pollutant Conditions – Reporting** – The permittee shall submit to the DEQ, semiannual compliance reports according to the following requirements:

- a. *Dates.* The permittee shall prepare and submit each semiannual compliance report according to the following dates:
  - (1) Each semiannual compliance report shall cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

- (2) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semi-annual reporting period.
  - (3) The first and subsequent compliance reports may be submitted according to the dates established for reporting in Condition 73 instead of according to the date specified in Condition 58.a(2).
- b. *Inclusion with Title V report.* The permittee shall report all deviations as defined in 40 CFR 63, Subpart OOOO in the semiannual monitoring report required by Condition 73. If the permittee submits a semiannual compliance report along with, or as part of, the semiannual monitoring report required by Condition 73, and the semiannual compliance report includes all required information concerning deviations from any emission limitation in Condition 49, its submission shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to DEQ.
- c. *General Requirements.* Each semiannual compliance report shall contain the following information:
- (1) Company name and address.
  - (2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - (3) Date of report and beginning and ending dates of the reporting period. The reporting period is the six-month period ending on June 30 or December 31.
  - (4) Identification of the compliance option(s) specified in Condition 51 that were used on each web coating/printing operation during the reporting period and the compliance option(s) specified in Condition 52 that were used on each dyeing/finishing operation during the reporting period. If the permittee switched between compliance options during the reporting period, the permittee shall report the beginning and ending dates for each option used.
  - (5) If the emission rate without add-on controls compliance option was used for web coating/printing operations as specified in Condition 51.b or for dyeing/finishing operations as specified in Condition 52.b, the calculation results for each compliance period ending each month during the 6-month reporting period.
- d. *No deviations.* If there were no deviations from the emission limitations in Condition 49, the semiannual compliance report shall include a statement that



there were no deviations from the emission limitations during the reporting period.

- e. *Deviations: compliant material option.* If the compliant material option was used and there was a deviation from the applicable organic HAP content requirements in Condition 49, the semiannual compliance report shall contain the following information:
- (1) Identification of each coating, printing, dyeing or finishing material applied that deviated from the emission limit and each thinning or cleaning material applied in web coating/printing operations that contained organic HAP, and the dates and time periods each was applied.
  - (2) The calculation of the organic HAP content using Equation 15 of Condition 55.c for each coating or printing material identified in Condition 58.e(1). The permittee does not need to submit background data supporting this calculation (*e.g.*, information provided by material suppliers or manufacturers, or test reports).
  - (3) The determination of mass fraction of organic HAP for each regulated material identified in Condition 58.e(1). The permittee does not need to submit background data supporting this calculation (*e.g.*, information provided by material suppliers or manufacturers, or test reports).
  - (4) A statement of the cause of each deviation.
- f. *Deviations: emission rate without add-on controls option.* If the emission rate without add-on controls option was used and there was a deviation from the applicable emission limit in Condition 49, the semiannual compliance report shall contain the following information:
- (1) The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in Condition 49.
  - (2) The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. The permittee shall submit the calculations for Equations 16, 17, 18, 19, and 20 in Condition 56.a for web coating/printing operations; and for Equations 21, 22, 23, and 24 in Condition 56.b for dyeing/finishing operations; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to Condition 56.a(4)(c) or 56.b(3)(b) ; and, for dyeing/finishing operations, if applicable, the mass of organic HAP in wastewater streams calculation for Equation 25 in Condition 56.c(4). The permittee does not need to submit background data supporting these calculations (*e.g.*, information provided by materials suppliers or manufacturers, or test reports).

(3) A statement of the cause of each deviation.

A copy of each semiannual compliance report shall be provided to EPA Region III, to the attention of the Printing, Coating, and Dyeing of Fabrics and Other Textiles NESHAP Coordinator, at the following address:

EPA Region III  
Air Enforcement Branch  
3AP20  
1650 Arch Street  
Philadelphia, PA 19103

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110, 40 CFR 63.4311(a) and 40 CFR 63.10(a))

## Facility Wide Conditions

59. **Facility Wide Conditions – Hazardous Air Pollutants – Limitations** – The hazardous air pollutant (HAP) emissions, as defined by 112(b) of the Clean Air Act, from the facility shall not exceed 9.9 tons per year of any individual HAP or 24.9 tons per year of any combination, calculated monthly as the sum of each consecutive 12-month period. HAPs which are not accompanied by a specific CAS number (as listed in Attachment B) shall be calculated as the sum of all compounds containing the named chemical when determining compliance with the individual HAP emissions limitation of 9.9 tons per year.  
(9 VAC 5-80-110)

60. **Facility Wide Conditions – Hazardous Air Pollutants – Monitoring and Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with the emission limit in Condition 59 of this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

- a. Monthly and annual throughput of each HAP-containing material used at the facility. This includes, but is not limited to, materials used in all manufacturing processes, fuel burning equipment and miscellaneous sources such as insignificant emission units and maintenance, repair, and construction activities (coatings, adhesives, lubricants, etc.). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- b. Monthly and annual individual and total HAP emissions from the facility. This includes, but is not limited to, materials used in all manufacturing processes, fuel burning equipment and miscellaneous sources such as insignificant emission units and maintenance, repair, and construction activities (coatings, adhesives, lubricants, etc.). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- c. Material Safety Data Sheets (MSDS) or other vendor information showing HAP content for each material used at the facility.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.  
(9 VAC 5-80-110)

61. **Facility Wide Conditions – Hazardous Air Pollutants – Monitoring and Reporting** – A semiannual report for the preceding six-month period containing the following information to determine compliance with the individual and total HAP emission limits established in Condition 59 shall be submitted to the DEQ, no later than March 1 and September 1 of each calendar year. This report must be signed by

a responsible official, consistent with 9 VAC 5-80-80 G, and shall include, at a minimum:

- a. Monthly and annual throughput of each HAP-containing material used at the facility.
- b. Monthly and annual individual and total HAP emissions from the facility.

The information listed above may be included in the reports required by Condition 73.  
(9 VAC 5-80-110)

## Insignificant Emission Units

62. **Insignificant Emission Units** – The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
--	Storage Tanks	9 VAC 5-80-720 B	VOC	--
Oil Tank 1	Fuel Oil Tank	9 VAC 5-80- 720 B	VOC	--
PVC1	PVC natural gas-fired Latex oven burners	9 VAC 5-80-720 C	--	4.08 Million Btu/hr
PVC1	PVC natural gas-fired oven burners	9 VAC 5-80-720 C	--	1.7 Million Btu/hr
LPCR-1	LPCR-1 natural gas-fired Tile Line singer	9 VAC 5-80-720 C	--	0.7 Million Btu/hr
FP	Diesel Fire Pump	9 VAC 5-80-720 B	VOC, PM-10, NO <sub>x</sub> , SO <sub>2</sub> , CO	--
CT	Cooling Towers (3)	9 VAC 5-80-720 B	VOC, PM-10	--

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

## Permit Shield & Inapplicable Requirements

63. **Permit Shield and Inapplicable Requirements** – Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
None identified		

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.  
(9 VAC 5-80-140)

## General Conditions

64. **Federal Enforceability** – All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.  
(9 VAC 5-80-110 N)
65. **Permit Expiration** – This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
66. **Permit Expiration** – The owner shall submit an application for renewal at least six months but no earlier than 18 months prior to the date of permit expiration.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
67. **Permit Expiration** – If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
68. **Permit Expiration** – No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
69. **Permit Expiration** – If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
70. **Permit Expiration** – The protection under subsections F.1 and F.5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

71. **Recordkeeping and Reporting** – All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
- a. The date, place as defined in the permit, and time of sampling or measurements.
  - b. The date(s) analyses were performed.
  - c. The company or entity that performed the analyses.
  - d. The analytical techniques or methods used.
  - e. The results of such analyses.
  - f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

72. **Recordkeeping and Reporting** – Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

73. **Recordkeeping and Reporting** – The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
- b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
  - (1) Exceedance of emissions limitations or operational restrictions;
  - (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,
  - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period”.



(9 VAC 5-80-110 F)

74. **Annual Compliance Certification** – Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
- a. The time period included in the certification. The time period to be addressed is January 1 to December 31.
  - b. The identification of each term or condition of the permit that is the basis of the certification.
  - c. The compliance status.
  - d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
  - e. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
  - f. Such other facts as the permit may require to determine the compliance status of the source.
  - g. One copy of the annual compliance certification shall be sent to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3\_APD\_Permits@epa.gov

(9 VAC 5-80-110 K.5)

75. **Permit Deviation Reporting** – The permittee shall notify the DEQ, within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition 73 of this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

76. **Failure/Malfunction Reporting** – In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the DEQ, by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the DEQ.  
(9 VAC 5-20-180 C)
77. **Severability** – The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.  
(9 VAC 5-80-110 G.1)
78. **Duty to Comply** – The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.  
(9 VAC 5-80-110 G.2)
79. **Need to Halt or Reduce Activity not a Defense** – It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.  
(9 VAC 5-80-110 G.3)
80. **Permit Modification** – A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.  
(9 VAC 5-80-190 and 9 VAC 5-80-260)
81. **Property Rights** – The permit does not convey any property rights of any sort, or any exclusive privilege.  
(9 VAC 5-80-110 G.5)
82. **Duty to Submit Information** – The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee

shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.  
(9 VAC 5-80-110 G.6)

83. **Duty to Submit Information** – Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.  
(9 VAC 5-80-110 K.1)
84. **Duty to Pay Permit Fees** – The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.  
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)
85. **Fugitive Dust Emission Standards** – During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:
- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
  - b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
  - c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
  - d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
  - e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
- (9 VAC 5-40-90 and 9 VAC 5-50-90)
86. **Startup, Shutdown, and Malfunction** – At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control

equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 E and 9 VAC 5-40-20 E)

87. **Alternative Operating Scenarios** – Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.  
(9 VAC 5-80-110 J)

88. **Inspection and Entry Requirements** – The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:
- a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
  - b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
  - d. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

89. **Reopening For Cause** – The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

- a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

90. **Permit Availability** – Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.  
(9 VAC 5-80-150 E)
91. **Transfer of Permits** – No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.  
(9 VAC 5-80-160)
92. **Transfer of Permits** – In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)
93. **Transfer of Permits** – In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)
94. **Malfunction as an Affirmative Defense** – A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of paragraph 2 of this condition are met.
95. **Malfunction as an Affirmative Defense** – The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

- a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
- b. The permitted facility was at the time being properly operated.
- c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
- d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

(9 VAC 5-80-250)

96. **Malfunction as an Affirmative Defense** – In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.

(9 VAC 5-80-250)

97. **Malfunction as an Affirmative Defense** – The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.

(9 VAC 5-80-250)

98. **Permit Revocation or Termination for Cause** – A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80, Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.

(9 VAC 5-80-190 C and 9 VAC 5-80-260)

99. **Duty to Supplement or Correct Application** – Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.

(9 VAC 5-80-80 E)

100. **Stratospheric Ozone Protection** – If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.  
(40 CFR Part 82, Subparts A-F)
101. **Asbestos Requirements** – The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).  
(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)
102. **Accidental Release Prevention** – If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.  
(40 CFR Part 68)
103. **Changes to Permits for Emissions Trading** – No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.  
(9 VAC 5-80-110 I)
104. **Emissions Trading** – Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:
  - a. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
  - b. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
  - c. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

## **SOURCE TESTING REPORT FORMAT**

### Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test Dates.
4. Tester; name, address and report date

### Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. \*Signed by reviewer

### Copy of approved test protocol

### Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. \*For each emission unit, a table showing:
  - a. Operating rate
  - b. Test Methods
  - c. Pollutants tested
  - d. Test results for each run and the run average
  - e. Pollutant standard or limit
5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

### Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

### Test Results

1. Detailed test results for each run
2. \*Sample calculations
3. \*Description of collected samples, to include audits when applicable

### Appendix

1. \*Raw production data
2. \*Raw field data
3. \*Laboratory reports
4. \*Chain of custody records for lab samples
5. \*Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

\* Not applicable to visible emission evaluations